

South Tyneside Council

Residential Development – Trinity South

South Shields

Ground Investigation

Geotechnical and Geoenvironmental Assessment

Job No: 1004469

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Ground Investigation

Geotechnical and Geoenvironmental Assessment

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Trinity South Development – Ground Investigation, Geotechnical and Geoenvironmental Assessment

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EXECUTIVE SUMMARY

Scheme

The Client (South Tyneside Council) proposes to redevelop a 13 hectare brownfield site between Frederick Street in the east and Eldon Street in the west, in the Laygate region of South Shields, for residential purposes. The majority of the site was previously used for the manufacture of printed circuit boards, operated by Circatex Ltd. This area was cleared of all structures including below ground foundations and services in 2008/2009. The eastern extension area adjoining the Circatex site is currently occupied by residential and commercial properties, many of which are still occupied.

South Tyneside Council is seeking to procure a development partner for the new residential development at the site.

Scope

Cundall Geotechnical has been commissioned by Turner & Townsend on behalf of the South Tyneside Council to scope and procure a site investigation and prepare an interpretative report for the proposed development based upon the findings of the investigation (to be issued to the bidders for information only).

Following a review of the available site investigation information made available by Turner & Townsend, an intrusive ground investigation was scoped by Cundall Geotechnical for the proposed development and commented upon by the bidders. The current intrusive investigation was limited to the former Circatex site, the hardstanding/car park area and the former pub area immediately to the east. No intrusive investigation was undertaken in the eastern area occupied by the residential/commercial properties due to access restrictions imposed by the Council. However, a reasonable degree of ground investigation was undertaken by Parsons Brinckerhoff in 2009 in accessible parts of the eastern area and the results of this investigation together with the results of current investigation have been used in assessing the ground conditions in the eastern part of the redevelopment site. In addition, an intrusive geoenvironmental investigation was undertaken by Dunelm in 2009 at the former Circatex factory site during the demolition works.

This report summarises the findings of the current and previous ground investigations undertaken at the development site and presents a geotechnical and geoenvironmental assessment of ground conditions revealed by the investigations. This report also presents a Tier 1/2 generic risk assessment and conceptual site model for assessment of site contamination and an outline remediation strategy (for agreement by the Local Planning Authority), based on the results of the investigation.

Site Investigation

The intrusive ground investigation comprised ten cable percussive boreholes, four of which were extended into rock by rotary drilling to a maximum depth of 18.5m bgl, eighteen shallow window sample probeholes to a maximum depth of 6.5m bgl, a number of trial trenches to check for presence of relict foundations the installation of a number of gas and groundwater standpipes and associated sampling and in situ testing.

Ground Conditions

The development area is underlain by made ground (locally including relict topsoil) between about 1.0m and 4.5m thick. The made ground is underlain by Glacial Clay, locally including Laminated Clay, between about 1m and 9m thick. The topmost 0.4m to 1.5m of the glacial deposits is generally weathered and has a lower strength and higher compressibility as indicated by N values and laboratory strength tests. The Coal Measures rocks, generally sandstones with occasional siltstones and mudstones, underlie the glacial deposits.

The made ground at the site is very heterogeneous varying in composition from slightly sandy gravelly clay with low cobble content to silty very gravelly sand with some cobbles. The cobbles and gravels generally comprise brick, concrete, sandstone, occasional flint, clinker, slag, coal, rare metals, plastic, pottery, rebar, glass. Locally, ash rich pockets/zones and ballast-like materials were also encountered.

Groundwater

The monitoring records obtained to date from current and previously installed monitoring wells across the site indicate the presence of a shallow groundwater within the made ground, at a depth between about 2.0m to 3.9m bgl. Monitoring records of a limited number of standpipes with response zones within the rock strata indicate the presence a deeper groundwater table within the sandstones.

Coal Seams and Mineworkings

The site is known to be underlain by workings in five coal seams, the shallowest being the High Main Seam at a depth of about 192m below ground level. Based on a review of available information and previous borehole records, it is concluded that the site is not underlain by mineworkings at a depth shallow enough to affect the foundation design for the proposed residential development. Consequently, it is considered that no special remedial measures will be required to stabilise any potential mineworkings beneath the site for foundation purposes, and that the risk to the proposed development from historic mineworkings is negligible.

Geotechnical Assessment and Engineering Considerations

Only preliminary guidance is provided in this report on foundation solutions based on the findings of the current and previous investigations. Proposed finished floor/site levels are not known and different housing layouts are being considered by the bidders. It is anticipated that the residential development will largely involve conventional low rise housing with private gardens.

Foundation Design Considerations

Made ground would not generally be suitable as a bearing stratum and the foundations should be constructed to bear on the competent natural strata having adequate bearing capacity for the proposed building loads. It is considered that in areas where made ground is thicker than about 2.5m, ground improvement (e.g. vibrostone or vibroconcrete columns) or piled foundations would be more economical foundation solutions, although mass concrete trenchfill to deeper depths of say 3.5m, can also be considered. However, the presence of a shallow groundwater table and the potential instability of trench excavations should be taken into account if the foundations are to be taken beyond about 2.5m bgl.

Although vibrostone columns are considered to be suitable for the majority of the site, the local presence of thin, generally less than 0.3m thick, relict topsoil zones at the base of made ground, which are generally described as soft to firm or loose, may be considered unsuitable for this technique by the specialist ground improvement companies. Therefore, specialist contractors should be consulted on the viability of stone column improvement throughout the development site.

Many types of proprietary pile systems are available for low rise housing developments and specialist piling contractors should be consulted for design of the most economic piled foundations. Consideration should be given to designing the piles in accordance with '*Efficient design of piled foundations for low-rise housing*' NHBC (2010).

In accordance with NHBC guidelines, suspended floor slabs are recommended where made ground exceeds 0.6m in thickness. However, consideration should be given to ground bearing slab if ground improvement is adopted for the foundations, subject to additional costs involved for this solution.

Shrinkability and Trees

The plasticity test results from previous and current investigations indicate the Glacial Clay to have a variable low to high (generally medium) volume change potential. However, in a large part of the development site, the Glacial Clay is overlain by made ground of generally granular nature. Therefore, the minimum foundation depths recommended by NHBC Standards Chapter 4.2 are only applicable for shallow foundations to be constructed in the northeastern part of the former CIRCATEX site.

Gas Protection Measures

No radon protective measures are required for development at the site. Based on the gas monitoring results from previous and current investigations reviewed in this report and the revealed ground conditions, the gassing regime at the site is likely to classify as Characteristic Gas Situation 1 (CS1 – very low hazard potential) in accordance with Table 1 of BS 8485:2007 and as 'Green' using the traffic light classification of NHBC (2007). Therefore, no special gas protection measures are considered necessary.

Ground Aggressivity

Based on all laboratory test results from previous and current investigations and the ground conditions, the design sulphate class for concrete in contact with made ground/natural soil is assessed to be DS-2 for Aggressive Chemical Environment for Concrete (ACEC) classified as AC-2, assuming mobile groundwater conditions. All buried concrete should be designed in accordance with BRE Special Digest 1:2005.

Soakaway Potential

Due to the low permeability values recorded by insitu testing carried out within 2m depth of the ground and the presence of very low permeability Glacial Clay strata underlying the made ground, it is considered that soakaways are not generally feasible at the site.

Combustability Potential of Soils

Based on the Calorific Value test results from the current and previous ground investigations, it is considered that the made ground materials at the site are unlikely to present a potential for combustion hazard.

Car Park/Road Pavement Design

The proposed site levels, road layout and car parking areas are not known at this stage and may vary depending on the bidder's scheme layout. Therefore it is not possible to recommend CBR values for pavement/car park design at this stage.

For preliminary design purposes, a CBR value of 5 can be adopted for the made ground within about 0.8m depth of the existing site levels at the Circatex site, subject to adequately proof rolling the formation and removing any soft spots/obstructions. It is recommended that in situ CBR tests are carried out in proposed new road/car parking areas at proposed formation levels, especially in the eastern part of the site following demolition of existing structures.

Excavations

Groundwater is likely to be encountered at a depth of over 2.0m bgl within the made ground. Sump pumping may be adequate for shallow foundation and service excavations deeper than 2m.

No relict foundations were encountered during the current investigation in the Circatex site. Nonetheless, provision should be made for the presence of a small amount of relict foundations not revealed by the current investigation, as no detailed records are present from the demolition works at the Circatex site. A concrete obstruction (possible concrete base to cellar?) was encountered at 2.0m bgl in the demolished pub area in the southeastern corner of the site. Elsewhere (along Frederick street and New George Street), the infrastructure and buildings are largely intact, although some are currently unoccupied.

Reuse of Site Won Soils

Based on the current site levels, it is not considered that significant cutting/filling will be carried, except perhaps for the removal of the low earthbund encircling the Circatex site. The material excavated from the bund could be used for general levelling at the site and this is recommended as off site disposal costs can be significant. Based on a number of compaction tests carried out during the current investigation excavated made ground soils may require to be conditioned (wetting) before reuse as engineering fill.

If it is proposed to use site won materials within the scheme, these materials should be engineered in accordance with the Highways Agency Specification for Highway Works, Series 600 –

Earthworks. It is recommended that confirmatory tests be carried out prior to carrying out the earthworks if the site-won materials are to be used as engineering fill.

Site Contamination and Outline Remediation Strategy

Site Contamination and Risk Assessment

The chemical data obtained during the previous Dunelm and PB investigations and the current investigation have been assessed in relation to current guideline values and other criteria commonly used for the assessment of land contamination for residential land use purposes..

Elevated concentrations of metals, PAHs and TPH above adopted Tier 1 threshold levels and a localised asbestos 'hotspot' have been recorded at the development site. The potential risk to human health from these concentrations is assessed as moderate. However, the investigation carried out in the eastern part of the development site, currently occupied by residential and commercial properties, was limited in scope. Therefore, further investigation and risk assessment should be undertaken in this part of the site following demolition of the properties.

Both previous and current investigations at the site recorded elevated dissolved phase concentrations of a number of contaminants in the shallow perched groundwater within the made as well as in the underlying deeper groundwater within the rock. It is considered that these concentrations are indicative of the regional groundwater quality and might have been arisen due to the historic industrial and/or coal mining activities in the general area. The overall risk to controlled waters due to the recorded elevated leachable and dissolved phase concentrations is considered low.

Soil concentrations of pH, arsenic, lead, mercury, PAH and TPH are elevated above either the Northumbrian Water trigger levels or the Water Regulations Advisory Scheme (WRAS) guideline values for supply pipe material selection. The risk presented by these contaminants can be minimised by selecting an appropriate material for the new water supply pipes. It is recommended that all chemical test results are forwarded to Northumbrian Water Ltd to determine their requirement for upgraded water supply pipes/services protection.

Remedial Measures

Due to the presence of elevated contaminants in the made ground, remedial measures, including provision of a clean cover system in the garden areas, are recommended to make the site suitable for 'residential' development. An outline remediation strategy is included in the report.

Disposal of Soil Waste

Limited WAC test results indicate that the majority of the made ground materials from shallow depth would generally classify as 'inert' waste for purposes of offsite disposal. However, there are pockets/zones of ash rich materials within the made ground, especially at a depth of over 1.0m bgl, which are likely to classify as 'stable non reactive hazardous waste' waste. Therefore, it is recommended that should any off site disposals be required, the made materials should be carefully segregated, stockpiled and subjected to WAC analysis to determine their actual waste classification prior to disposal.

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1.0 INTRODUCTION

1.1 The Scheme

The Client (South Tyneside Council) proposes to redevelop a 13 hectare brownfield site known as the Trinity South site, between Frederick Street in the east and Eldon Street in the west, South Shields, for residential purposes. The majority of the site was previously used for the manufacture of printed circuit boards, operated by Circatex Ltd. This area was cleared of all structures including below ground foundations/services in 2008/2009. The area east of the Circatex site is currently occupied by residential and commercial properties, some of which are vacant.

The site location plan is in Figure 1.

1.2 The Brief

A number of site investigations were carried out at the Circatex factory site for various purposes, dating from 1990s, including a site-wide investigation carried out by Halcrow in 2003 for redevelopment of the site. These investigations have been summarised in '*Ground Conditions Risk Assessment Report*' by Halcrow (2007), which is an updated version of their May 2003 report that re-evaluates the environmental risks in the light of recent developments since the issue of the original report. The re-assessment also took into account the possibility of residential use as well as commercial use of the site.

The Circatex factory site was demolished by Holystone Demolition Ltd in 2008/2009. A geoenvironmental investigation was undertaken by Dunelm while the demolition was still being carried out at the site and reported in '*Geoenvironmental Appraisal of Land at Circatex Works, South Shields*' (Dunelm, January 2009).

The development area east of the Circatex site was investigated by Parsons Brinckerhoff, commissioned by Turner & Townsend, in June 2009. However, only a limited number of exploratory holes were drilled immediately east of the Circatex site due the presence of existing buildings in the area investigated.

South Tyneside Council is seeking to procure a development partner for the new residential development at the site. During ITCD dialogue stage bidders have requested detailed site investigation information in order to provide greater certainty in respect of their cost assumptions. Cundall Geotechnical has been commissioned by Turner and Townsend on behalf of the South Tyneside Council to scope and procure a site investigation and prepare an interpretative report for the proposed development based upon the findings of the investigation (to be provided to bidders for information only).

Following a review of the site investigation information made available by Turner & Townsend, an intrusive ground investigation was scoped by Cundall Geotechnical for the proposed development and commented upon by the bidders. At the request of South Tyneside Council no investigation was undertaken in the area occupied by existing residential/commercial properties in the east of the site.

The intrusive investigation was carried out by AEG Ltd following competitive tendering and the fieldwork was undertaken between 19 and 30 September 2011, under the technical supervision of Cundall.

This report summarises the findings of the current site investigation and presents a geotechnical and geoenvironmental assessment of ground conditions revealed by the investigation. This report also presents a Tier 1/2 generic risk assessment and conceptual site model for assessment of site contamination and an outline remediation strategy (for agreement by the Local Planning Authority), based on the results of the investigation.

A brief summary of information from the available previous investigation reports have been included in this report for completeness and ground related data relevant to the proposed development has been used in the interpretation of ground conditions at the site together with the data obtained from the current site investigation. In addition, an additional desk study has been undertaken which also included a review of a recently procured Envirocheck report for the site.

1.3 Limitations

The investigation of the site has been carried out to provide sufficient information on the geotechnical and geoenvironmental characteristics of the ground and groundwater at the development site and to provide a reasonable assessment of the environmental risks together with engineering and development implications.

The opinions provided and recommendations given in this report are based on a visual site inspection, reference to accessible referenced historical records, the information provided by the third parties, the results of ground investigations as detailed in the text and the factual data provided by the specialist ground investigation contractor. Whilst every effort has been made to interpret the conditions between the investigation locations, such information is only indicative and liability cannot be accepted for its accuracy. There may be exceptional ground conditions elsewhere on the site which have not been disclosed by this investigation and which have therefore not been taken into account in this report. The test results that have been obtained can only be regarded as a limited but likely representative sample range, assessed against current guidelines. The possibility of the presence of contaminants, possibly in higher concentrations elsewhere on the site or the presence of encountering ground conditions at variance with the logs elsewhere on the site cannot be discounted.

The scope of the investigation was selected based on the preliminary development proposals provided by the Client and may be inappropriate to another form of development. The assessments carried out and recommendations made in this report with regard to foundation and infrastructure design are based on the preliminary details provided by the Client and the results of ground investigation at discrete locations. If further investigations indicate the ground conditions vary from those revealed by the existing investigation or the structural details and layout of the proposed buildings, structures and infrastructure are revised, Cundall reserves the right to carry out further assessments and revise their recommendations in line with the revised scheme details.

The ground investigation was conducted and this report has been prepared for the private and confidential use of the Client (South Tyneside Council) and the bidders only and cannot be reproduced in whole or in part or relied upon by any third party for any use whatsoever without the express written authorisation of Cundall. If any third party whatsoever comes into possession of this report, they rely on it at their own risk and Cundall accepts no duty or responsibility (including in negligence) to any such third party.

2.0 BACKGROUND INFORMATION

2.1 Sources of Information

The following reference sources, providing background information, were reviewed, with relevant information utilised during the preparation of this report:

1. BRE 211 (2007). Radon: Guidance on protective measures for new buildings.
2. British Geological Survey (BGS) (1992). Geological Map Sheet 21, Sunderland (Solid & Drift), 1:50,000 Series.
3. British Geological Survey (BGS) (1981). Geological Map Sheet NZ 36 NE, (Solid & Drift), 1:10,560 Series.
4. Landmark Information Group Limited (28 July 2011). 'Residential Development, Trinity South, South Shields, Tyne and Wear' – Envirocheck Report No. 35564740_1_1.
5. Halcrow (February 2007). Ground Conditions Risk Assessment, Circatex Ltd, South Shields, Prepared for One NorthEast. (Updated Halcrow May 2003 report).
6. WSP (February 2003). Factual Ground Investigation Report, Circatex Ltd, Eldon Street, South Shields.
7. Holystone Demolition Ltd (2008/09). Principal Contractors Completion File (asbestos Removal, Demolition and Site Investigation) prepared for One NorthEast, includes the following document:
8. Dunelm (January 2009). Geoenvironmental Appraisal of Land at Circatex Works, South Shields.
9. Parsons Brinckerhoff (June 2009). Geoenvironmental Assessment, Trinity South, South Shields.
10. AEG Ltd (November 2011). Factual Report, Ground Investigation, Trinity South Residential Development, South Shields.

The above documents should be read in conjunction with this report in order to understand its context.

Halcrow (2007) report refers to a number of previous investigations carried out at the site for various purposes since 1991. These are listed below but the reports of these investigations have not been reviewed during the preparation of this report. A brief summary of the findings of previous investigations is given in the Halcrow (2007) report. Reference should be made to Halcrow report for more details.

- Dunelm Drilling (1991). Site Investigation Proposed New Development.
- Solmek Ltd (November 1992). Ground Investigation at Eldon Street, South Shields.
- Dunelm Drilling (1996). Ground Investigation, New Press Foundations.
- Farmer Associates (1998). No title indicated.
- Dunelm Geotechnical (November 2000). Ground Investigation Report.
- Robinson Environmental (March 2001). Phase 2 GI Proposed Effluent Tank Installation Report.
- Ove Arup (November 2001). ISL Factory, South Shields, Site Audit Report.
- Halcrow (January 2003). Initial Site Appraisal, NE3834 – Eldon Street.

3.0 SITE DESCRIPTION AND PROPOSED DEVELOPMENT

3.1 Site Description and Topography

The site is situated about 1.5km southwest of South Shields town centre, and is centred at approximate NGR Ref. 435960 E, 566140 N (Figure 1). The site is bounded on the north by Laygate, on the east by New George Street, on the south by Reed Street and on the west by Eldon Street.

The former Circatex factory site is predominantly flat following demolition at an elevation of about 6.7m in the south to 11.0m AOD in the north. Currently, the site is grassed, a 0.5 to 1.0m high earth bund encircles the site. Prior to demolition, the majority of the site was covered by the main factory building itself with the remainder comprising two car parks (the main car park in the northwest is outside the current development area), grassed landscaped areas, roadways and hardstanding areas used as uncovered outside storage (predominantly along the eastern boundary of the site).

The site elevations to the east of the former Circatex factory vary from 7.1m AOD to 12.5m AOD, generally sloping northeast to southwest. This area comprises the residential/retail premises along Frederick Street and New George Street. A tarmac covered car park and parking spaces are present along the back lane immediately east of the grassed Circatex site. The majority of the premises along both streets are presently occupied.

The site is surrounded by residential housing to the north and partially to the south and west. Industrial premises are present to the south and west. A landscaped area and doctor's surgery are present east of New George Street, beyond which is the Western Approach.

4.0 PREVIOUS INVESTIGATIONS AT THE SITE

4.1 Halcrow Investigation (2003/2007)

Halcrow (2007) 'Ground Conditions Risk Assessment Report', is an updated version of their May 2003 report which re-evaluates the geoenvironmental risks in the light of developments since 2003. The re-assessment also takes into account the possibility of residential use as well as commercial use of the site. It summarizes very briefly the results of previous investigations listed in Section 2, and concentrates on the results of site investigation undertaken by WSP Environmental in December 2002/January 2003.

The site investigation by Halcrow/WSP comprised 3 trial pits, 42 window sample and 5 cable percussion boreholes. Sixteen groundwater/gas monitoring wells were installed in the window sample holes.

The walkover survey by Halcrow in 2007 indicated several spillages of liquids (including sulphuric acids and hydrochloric acids, permanganate and sodium hypochlorite) within the factory, particularly in the wet areas, mixing room and effluent treatment room. Several leaking pipes were also noted. Several of the ducting systems contained coloured liquids and fine powdery material associated with the cleaning/grinding of circuit plates.

Ground Conditions

The ground investigation indicated a variable made ground thickness of 0.2m to 5m. The made ground comprised variable materials; sand and gravel mixtures with varying proportions of clinker, rock, ash, coal and slag, and clayey sand with varying mixtures of ash, concrete, brick, slag, coal and dolomite. Made ground was generally cohesive in nature towards the base, comprising a soft to firm sandy clay containing organic matter in places.

Glacial deposits comprising Laminated Clay and Glacial Till were recorded to a depth of 6.1m to 8.7m bgl. Laminated Clay was generally firm to stiff having generally very high plasticity and an undrained shear strength of 53 to 79 kPa, but soft to firm within the car park area to the northwest (outside the current development area). The Glacial Till, beneath the Laminated Clay, was generally stiff, locally firm, to very stiff, having low to high plasticity with undrained strength in the region of 60 kPa. There were also sand and gravel deposits, typically up to 1m thick interbedded with the Laminated Clay and the Glacial Till. Rockhead was encountered at a depth of 5.5m to 8.7m bgl as very weak to weak highly to completely weathered sandstone and shale, but was not proven beyond 0.7m. Monitoring indicated a shallow groundwater table at a depth of 0.3m to 2.0m bgl within the made ground, perched above the Laminated Clay.

Contamination and Risk Assessment

Halcrow stated that the site investigation carried out in 2003 targeted those areas where there was the greatest potential for contamination to be present, but was constrained by operational requirements and other factors at the factory.

A risk assessment based source-pathway-receptor approach was carried out by Halcrow using the chemical test results on soils. The chemical data from previous reports undertaken at the site were added to the results from 2003 WSP Environmental investigation. This gave 125 chemical results from soils. Leachate analysis was also undertaken on the majority of samples to determine the potential for contamination to mobilise into the aqueous phase.

A Tier 1 assessment using threshold values derived from generic assessment published by the Environment Agency (SGVs) or developed by Halcrow (Site Specific Assessment Criteria,

SSACs) based on the CLEA model at the time were adopted. The laboratory test results were compared with the SGVs and/or SSACs to assess risk for both 'current' (factory use) and future (both commercial and residential) land use scenarios. The ICRCL threshold levels based on 'ICRCL Guidance Note 70/90, Notes on the Restoration and Aftercare of Metalliferous Mining Sites for Pasture and Grazing' were also referred to in the risk assessment.

For assessment of risk to controlled waters, Environmental Quality Standards (EQS) for estuarine water were used to assess leachate and groundwater concentrations. Gas risk assessment was based on CIRIA C659.

No WAC testing was undertaken and no assessment was carried out to determine the waste classification of site soils for disposal purposes.

The soil samples indicated elevated concentrations of;

- Heavy metals and metalloids (arsenic, lead, nickel, copper, boron, zinc),
- Organics (polyaromatic hydrocarbons, some volatile organic compounds and semi volatile compounds), and
- Inorganics (sulphate, alkaline pH and slightly acidic pH beneath wet areas).

The elevated arsenic, lead and nickel concentrations were mainly detected beneath the main car park site. Elsewhere, the elevated metal concentrations were limited and not considered to be statistically significant. However, elevated ammonia was encountered in half of the samples tested. Halcrow stated that ammonia did not present particular human health risk but would provide a leachable source to groundwater.

Halcrow stated that the chemical results indicated that, with the exception of the generation of soil gas, the ground was not significantly impacted by spillages beneath the factory. However, the potential for future leakages from the service ducts in the factory remained high due to the aggressive nature of the chemicals present in the ducts (acidic pH, sulphates, ammonia, etc). They recommended that a programme of repairs to defective areas of concrete ducting etc should be carried out to mitigate the potential for further seepage or spillages into the ground. It is not known whether this was implemented subsequent to preparation of the 2003 report.

Controlled Waters

Tests on seven groundwater samples taken from shallow installations indicated elevated concentrations of some metals (arsenic, boron, cadmium, chromium, copper, nickel, selenium) in excess of the Tier 1 assessment criteria. Ammoniacal nitrogen was present at high concentrations. The PAH concentrations were assessed in a single sample.

Up to 80 samples were selected for leachability testing. Leachable concentrations were not particularly high and with the exception of copper, the made ground did not appear to be a significant source of metals. Hydrocarbons were not present at significant leachable concentrations within the made ground.

Halcrow concluded that groundwater quality beneath the site may be poor, with a number of metals and also ammoniacal nitrogen present in excess of EQS values. They recommended that a further sampling from existing installations should be carried out to determine whether or not groundwater quality has changed over time.

Gas Monitoring

Results of gas monitoring undertaken by Halcrow is summarised in Section 6.8.

Geotechnical Assessment

The geotechnical assessment undertaken by Halcrow (2007) report was very limited and only included a brief summary of geotechnical issues based on the investigation carried out in 2003, together with some general recommendations for foundation and infrastructure design. They recommended that shallow footings were not viable and ground improvement by vibro-replacement piles or piles should be considered.

Halcrow reported that 'the vast majority of water soluble sulphate concentrations indicated a design sulphate Class 1 for buried concrete to protect against aggressive ground conditions'. No test results or detailed assessment in accordance with BRE Digest 1 is given in the report. They also commented that localised hotspots of acidic conditions were likely to be present and required concrete resistant to acidic conditions at a limited number of locations. No CBR test results are presented in the report.

4.2 Holystone Principal Contractors Completion File (2009)

The information contained in Holystone Demolition Ltd (2009) Completion File is very limited regarding the 'earthworks' undertaken at the site and only covers the Circatex factory site. Only a very simple topographical plan is included as as-built information. However, a geoenvironmental investigation was undertaken by Dunelm while the demolition was still being carried out at the site. The results of the geoenvironmental investigation undertaken by Dunelm are reported separately in the next section.

The Holystone report stated that 18,540 tonnes of asbestos material was disposed off to the designated landfill facility. They state that an SI was undertaken which showed no contamination and deemed the site was suitable for industrial use. Holystone reported that 70% of the wastes removed from the demolition contract was recycled.

Holystone Method Statement stated the following works were included:

- Removal of hazardous materials, especially asbestos containing products,
- Grubbing up of floor slab and associated foundations/ring beams.
- Grubbing up and removal of all car parking and infrastructure works.
- Filling of voids with inert imported materials.
- Execution of a full site ground investigation.
- Regrading and recompaction of site
- All waste materials removed from site.

No plans are included in their report to show the location of the foundations/slabs/infrastructure services removed. Similarly, no details are included on the nature of the materials used in voids left after removal of foundations and to what degree, if any, re-compaction of the materials in the voids and throughout the site was undertaken.

The as-built drawing included in the file indicates that an area of hardstanding/concrete was left within the development area.

The report states that there was a decontamination contract carried out in advance of their works, but there were still sealed equipment on site such as the filter press units, which required clearance. However, no records of this decontamination contract or verification reports are available for review by Cundall. Subsequently, the nature of 'decontamination' undertaken at the site is not known.

4.3 Dunelm Geoenvironmental Investigation (January, 2009)

Dunelm carried out a geoenvironmental appraisal of land at Circatex Works on behalf of Holystone Demolition Ltd, while the demolition works was in progress.

A site investigation comprising 33 trial pits, 5 cable percussion boreholes (to a maximum depth of 10m bgl) and 17 shallow mini percussion boreholes was carried out. The results of the geoenvironmental investigation is reported in 'Geoenvironmental Appraisal of Land at Circatex Works, South Shields' (Dunelm, January 2009).

Ground Conditions

The investigation indicated a variable made ground thickness, 0.3m to 4.8m. Concrete and tarmac hardstand was recorded in a number of exploratory holes. Some of the holes were unable to penetrate the concrete within the central parts of the site. Made ground comprised generally granular materials including concrete, brick, clinker, occasional burnt shale, localised ash deposits and rock fragments.

The underlying 'natural soils' are described as being predominantly cohesive with firm and stiff slightly sandy slightly gravelly clays recorded to depths in excess of 10m. Localised areas of very dense sand were also recorded. The report stated that organic material (comprising firm and stiff clays) was encountered within the natural deposits at depths between 0.6m and 5.0m in the northern, southern and western areas of the site, with occasional lenses of 'organic' sands. No distinction was made in the report on the nature of the natural soils (i.e. Laminated Clay, Glacial Till).

Limited classification test results indicated a variable low to high volume change potential for these soils. Very limited (3 Nos) laboratory strength testing was undertaken on site soils. A more detailed assessment of the geotechnical test results from the Dunelm investigation are included in Section 8.2.

Limited monitoring in four installations at the northern part of the site indicated a groundwater table at a depth of 0.8m to 3.2m bgl.

No elevations or coordinates are included in the exploratory logs and the locations of these holes on the 'Exploratory Hole Location Plan' included in the Dunelm report are considered to be approximate. Figure 2 shows the approximate positions of exploratory holes undertaken by Dunelm.

Contamination and Risk Assessment

Dunelm carried out a number of chemical tests on soils (1 topsoil sample, 40 made ground samples for metals and 17 samples for PAH, 5 leachate tests) and carried out a brief risk assessment covering residential, commercial/industrial parks/playing fields land use purposes using the results of laboratory tests. In addition, 4 samples were subjected to calorific value tests to assess combustability potential of ash bearing soils.

A Tier 1 assessment using generic ATRISK^{soil} database values for inorganics was used to assess the risks to human health for various land use scenarios. For analysis of organic determinants (PAH and TPH), reference was made to the EA report 'The UK Approach for Evaluating Human Health Risks from Petroleum Hydrocarbons in Soils (2005)'. Leachate test results (metals only) were compared with Water Supply (Water Quality) Regulations 1998 (amended 2000) and/or Environmental Quality Standards.

When compared with residential threshold values, the made ground indicated elevated concentrations of;

- Heavy metals and metalloids (arsenic, chromium and copper) at a significant number of locations, and
- Organics (aliphatic TPH C10 to C12, C12 to C16 and benzoapyrene) at a number of locations, some volatile organic compounds and semi volatile compounds),

Limited leachate testing on soils indicated no significant leachable concentrations of metals (only) when compared with the generic values. Groundwater was not tested.

Based on elevated inorganic contamination (metals only), Dunelm recommended that a cover system comprising 150mm of clean subsoil and 450mm of clean topsoil should be placed over the made ground in the garden and soft landscaped areas and other parts of the site that will not be covered by buildings, roads or hardstanding. The basis of this recommendation is not given in the report.

No WAC testing was undertaken and no assessment was carried out to determine the waste classification of site soils for disposal purposes.

Note: Dunelm test results have been combined with the test results obtained during the current investigation, and an assessment of all the test results have been undertaken using the current Tier 1/2 threshold values in Section 9.0 of this report.

Controlled Waters

A limited amount of leachate testing was undertaken but no chemical tests were carried out on groundwater. No controlled waters risk assessment was undertaken in the Dunelm report.

Gas Monitoring

Gas/groundwater standpipes were installed in 4 exploratory holes at shallow depth (maximum 3.5m bgl). These installations are all in the northern part of the site. Monitoring was carried out on three occasions. Results of the gas monitoring undertaken by Dunelm is summarised in Section 6.8 and assessed together with the monitoring results during the current investigation in Section 10.

Geotechnical Assessment

The geotechnical assessment undertaken by Dunelm (2009) was limited and only included a brief summary of geotechnical issues at the site solely based on the results of their investigation. Some general recommendations were made for foundation and infrastructure design. No CBR tests were undertaken by Dunelm.

Based on the results of tests on natural and made ground samples (including the tests carried out as part of environmental testing), Dunelm concluded that the ACEC classification for site soils was AC-3 and subsurface concrete should be designed to Design Sulphate Class DS-3 (without making any distinction between the different soil types). A summary of ground aggressivity test results by Dunelm is given in Section 8.3. A re-assessment of ground aggressivity has been carried out in Section 10 of this report using all test results from previous Dunelm (2009) and Parsons Brinckerhoff (2009) investigations and the current investigation.

Four calorific value test results undertaken by Dunelm did not indicate any concerns on combustability of made ground soils containing ash, when assessed in accordance with the guidance given in ICRCL Document 61/84 '*Notes on the fire hazards of contaminated land*' (July 1986). A re-assessment of combustability potential of site soils has been carried out in Section 10 of this report using the test results from Dunelm (2009) and Parsons Brinckerhoff (2009) investigations and the current investigation.

4.4 Parsons Brinckerhoff Investigation (June 2009)

The site investigation undertaken by Parsons Brinckerhoff in June 2009 covered the area between the Circatex factory site and Western Approach in the east, which includes the eastern part of the development site. However, the ground investigation was confined to the backlane/car park areas immediately east of the Circatex site. No investigation was undertaken along Frederick Street and New George Street, although a number of boreholes and window sample holes were undertaken outside the development area east of New George Street.

The ground investigation east of the Circatex site comprised 5 cable percussion boreholes to rockhead with one extended by rotary to 22.6m bgl, and 4 window sample holes, 1.3m to 4.5m depth.

Ground Conditions

The investigation indicated a variable made ground thickness, 2.0m to 4.2m. The made ground comprised generally granular materials, described as clayey gravelly sand or slightly clayey very sandy gravel with low cobble content, gravels consisting of sandstone, brick, slag, clinker and concrete. However, some holes indicated the presence of slightly gravelly clay underlying the granular made ground.

The underlying 'natural soils' were described as being firm becoming stiff with depth, locally very stiff, sandy gravelly clay (Glacial Till), laminated in places with occasional sand bands. The bedrock comprising very weak to weak sandstone was encountered at a depth of 6.6m to 7.9m bgl (+0.5m AOD to +1.3m AOD) immediately adjacent to the Circatex site. No coal was encountered in the rotary boreholes drilled within this area to a depth of 22.5m bgl with the rockhead encountered at 7.9m bgl.

A number of laboratory tests were carried out on the soil and rock samples taken from the general site. Detailed test results are included in the Factual Report prepared by Soil Mechanics and included with PB interpretative Report. A detailed assessment of geotechnical test results from Parsons Brinckerhoff investigation are included in Section 8.2.

Limited monitoring in four installations at the northern part of the site indicated a groundwater table at a depth of 0.8m to 3.2m bgl.

Contamination and Risk Assessment

PB carried out a number of chemical tests on soils and groundwater collected from the general site. For the purpose of risk assessment, the site was divided into two zones reflecting the proposed land uses with reference to the Development Framework Plan dated 11 November 2009: Zone 1 was for the commercial end use for the eastern half of the site, east of New George Street, and Zone 2 was for residential with plant uptake end use and included the eastern part of the current development area.

A generic risk assessment based on newly released CLEA UK model (beta version) was used by PB and a number of Generic Assessment Criteria (GAC) values were derived for the two land uses using risk assessment software or published data. For metals and phenols published SGV values were used.

For controlled waters risk assessment, PB compared the test results on groundwater against the UK Drinking Water Standards (DWS) first, commenting that the site was underlain by the Coal Measures which was designated as a minor aquifer. Groundwater samples which exceeded the DWS were then screened against the Environmental Quality Standards (EQS) for saline waters, as it was considered that hydraulic connectivity was possible between the minor aquifer and the River Tyne nearby. For selenium, nitrate and barium WHO health

values and chlorine WHO ATO values were used as a screening criteria. As no EQS is available for individual PAHs (except naphthalene), Lowest Effective Concentrations (LEC) taken from the Environment Agency R&D Technical Report P45 '*Polycyclic Aromatic Hydrocarbons (PAH): Priorities for Environmental Quality Standards Development (2001)*' were adopted as the screening values.

A summary of the PB's risk assessment carried out for the western part of the site proposed for residential development is given below.

There were zone-wide exceedances of assessment criteria within Zone 2 made ground soils comprising principally benzo(a)anthracene, chrysene, benzo(b)fluoranthene and aromatic hydrocarbons C12-C35.

PB stated that Zone 2 required action prior to redevelopment, consisting of a remediation options appraisal. This should consider further risk assessment, an appropriately designed cover system and/or remediation of hotspots unless they were to be located beneath hardstanding or buildings in the final development.

No WAC testing was undertaken/no assessment was carried out to determine the waste classification of site soils for disposal purposes.

Controlled Waters

From the analysis of groundwater samples, that exceeded the second tier of screening criteria, the contaminants of most concern were chloride, magnesium, benzo(a)pyrene, tetrachloroethane, ammoniacal nitrogen, fluoranthene and dibutyl tin.

However, PB stated that there was limited evidence to suggest that there were any corresponding onsite sources of contamination. The exceedances recorded in the samples were considered to be indicative of the regional groundwater quality and might have been arisen due to the historic industry and/or coal mining activities in the general area. Furthermore, there was unlikely to be potable abstractions in the area due to the regional groundwater quality, and therefore risks from these contaminants were considered to be limited. PB recommended that additional confirmatory groundwater monitoring should be carried out at the site to determine whether exceedances were indeed isolated.

Note: The test results reported by Parsons Brinckerhoff have been combined with the test results obtained during the current investigation, and an assessment of all test results have been undertaken using the current Tier 1/2 threshold values in Section 9.0 of this report.

Gas Monitoring

Out of 9 gas/groundwater standpipes installed in the general area three are located (TSBH02, TSBH04A and TSRBH02) in the development area. Monitoring was carried out on six occasions between 24 February and 1 April 2009. A summary of gas monitoring results undertaken by PB is summarised in Section 6.8. Further monitoring of still functioning installations was undertaken together with those installed during the current investigation and the results are reported in Section 8.4.

Geotechnical Assessment

The geotechnical assessment undertaken by PB (2009) was limited based on the results of their own investigation. Some general recommendations were made for foundation and infrastructure design. No CBR tests were undertaken by PB.

Based on the results of limited number of samples tested, PB categorised all site soils as ACEC class AC-1 and the design sulphate class for concrete as DS-1. However, they cautioned that the recommended ACEC class might not be a true representation of the whole

site condition as the sulphate level might vary across the site most especially in the made ground.

A re-assessment of ground aggressivity has been carried out in Section 10 of this report using the test results from previous Dunelm (2009) and Parsons Brinckerhoff (2009) investigations and the current investigation.

The calorific value tests on twenty made ground samples indicated a maximum value of 7.8 MJ/kg and the average value was 2.2MJ/kg, indicating a slight possibility of combustion. Eight of the samples came from the current development area. However, PB stated that there was little evidence on the logs to support the presence of large volumes of coal ash/dust and the elevated results might be associated with selective laboratory subsampling.

A re-assessment of combustability potential of site soils has been carried out in Section 10 of this report using all test results from the earlier Dunelm (2009) and Parsons Brinckerhoff (2009) investigations and the current investigation.

5.0 HISTORICAL DEVELOPMENT

5.1 Historical Review

Historical maps contained in the Envirocheck Report were reviewed and a summary of historic land use considered relevant to the proposed development is given below. Copies of the historical plans are presented in Appendix A.

Date	Scale (Source)	Site Features	Surrounding Land Use (NB: distances given are approximate)
1857 to 1862	1:528 (Town Plan) 1:2,500 (OS) 1:10,560 (OS)	<p>By 1857, buildings (possibly residential) were present in the northeastern and southern part of the site (extending beyond the southeastern site boundary).</p> <p>Other features recorded at the site by 1857 include a road (northern part of the site), footpath (south and southwest of the site) and a clay pit (northern corner of the site).</p> <p>The 1858 OS map recorded possible refuse heaps in the northern part of the site. In addition, a well is recorded in the southeastern part of the site.</p>	<p>The surrounding land to the west, north and northeast of the site had been developed with buildings (mainly residential) and roads by 1857. Other features recorded within the surrounding land by 1857 include a sandstone quarry (about 230m northeast), a clay pit (240m north), an old quarry (240m southeast), railway lines (about 50m northwest and 230m east), Jarrow Chemical Works (some 620m southwest), a chemical facility (340m south), a brick yard (immediately west of the site) and a grave yard (some 100m northwest).</p> <p>By 1858, the Jarrow Chemical Works had been extended to about 430m southwest of the site. Other features identified in the 1858 OS map include additional roads and buildings (from 40m west), Ballast Hills (immediately north of the site and some 290m west of the site), South Shields Works (390m west), and the 'West Docks' (some 470m west).</p>
1896 to 1899	1:10,560 (OS) 1:2,500 (OS) 1:500 (Town Plan)	<p>By 1896, the site had been developed with buildings (mostly for residential use) and access roads.</p>	<p>By 1896, the surrounding land had been developed with buildings (residential and light commercial) and roads. Other features recorded in the surrounding land during this period include brick works (200m southwest), Temple Town Brass Works (364m southwest) Shipbuilding & Engineering Works (450m west), Borough Foundry & Engine Works (400m southwest), metal foundry, engineering works and boatbuilding works (from about 340m west), old quarry (440m southeast), coal depots (140m north and 320m southeast), Beehive Glass Works (300m east), Refuse Dispatch Station (340m east), Tramway Depot (350m east), stone yard (310m east), Joinery Works and Coal & Lime Depot (about 500m east), St Hilda Colliery (500m northeast) and Cart & Rolley Works (340m north). The Templetown Old Pit (Manor Wallsend Colliery) was recorded some 490m southwest of the site. An area occupied by Shingle is recorded some 500m southwest.</p>
1915 to 1952	1:2,500 (OS) 1:10,560 (OS)	No significant changes.	<p>The land to the east and south of the site had undergone extensive development with residential / light commercial properties and roads by 1915. A tramway had been</p>

			constructed immediately east of the site by 1915. In addition, an electric theatre (later renamed Palace Cinema) was present adjacent to the northeastern site boundary by 1915. Other features recorded in the surrounding land between 1915 and 1952 include Corrugated Packing Works (500m southwest), Corporation Slaughterhouses (420m north), Iron Foundry (from some 170m northwest), Tyne Flint Glass Works (290m northwest), Holborn Engineering Works (270m northwest), North Eastern Foundry (180m northwest) and Stone Quay Shipbuilding Yard (360m northwest).
1956 to 1961	1:2,500 (OS) 1:10,560 (OS) 1:10,000 (OS)	By 1956, Elson Tank Works was located in the northeastern part of the site. In addition, a Slipper Factory was recorded in the northern part of the site.	Features recorded within the surrounding land between 1956 and 1961 include an electricity sub-station (immediately south of the site), Repair Works (Oil Drums) (350m southwest), Factory (Cooked Meat) (480m southwest), Slipper Factory (immediately northeast of the site and 200m northeast), Clothing Factory (260m northeast), Paint Factory (310m northeast), Ships Store depots (from 250m west) and a bakery (100m west).
1963 to 1977	1:2,500 (OS) 1:10,000 (OS) 1:1,250 (OS) 1:25,000 (Russian)	By 1963, a number of buildings in the eastern part of the site had been demolished. By 1968, an electronics factory had been constructed at the site (the building was extended to occupy the southwestern part of the site by 1971). However, an area in the southeastern part of the site still had residential buildings in place. Electricity substations are located in the western and eastern parts of the site. A pond is located in the northern part of the site. By 1968, a depot was present in the northeastern part of the site (former Elson Tank Works building).	By 1963, depots, a warehouse, a yard, a clothing factory and an electricity sub-station were present adjacent to the western site boundary.
1981 to 1993	1:10,000 (OS) 1:1,250 (OS)	The pond previously recorded at the site was no longer shown by 1996.	By 1981, the railway line previously recorded some 50m NW had been dismantled. The Rekendyke industrial estate had been constructed immediately west of the site by 1982. By 1989, a garage was located immediately northwest of the site (this was no longer shown by 1994). Other changes identified include the development of new roads, car parking spaces and buildings within the surrounding land.
2000 to 2011	1:10,000 (OS)	The electronics factory was still present at the site by 2006, but had been demolished by 2011.	No significant changes.

5.2 Summary of Historical Development

The Site

The earliest historical map (dated 1857) indicates that buildings (possible residential) were present in the northeastern and southern parts of the site, a road and a footpath. In addition, a clay pit was present in the northern corner of the site. By 1858, possible refuse heaps were recorded in the northern part of the site, while a well was present in the southeastern part of the site. By 1896, the site had been developed with buildings (mainly residential) and access roads. By 1956, the Elson Tank Works was located in the northeastern part of the site, while a Slipper Factory was recorded in the northern part of the site. A number of buildings in the eastern part of the site had been demolished by 1963.

An electronics factory (Circatex) had been constructed at the site by 1968, with electricity substations located in the western and eastern parts of the site and a pond recorded in the northern part of the site (pond not shown by 1996). By 1968, the Elson Tank Works had been converted into a depot. The electronics factory was present at the site by 2006, but was no longer present by 2011.

The Surrounding Land

By 1857, the surrounding land to the west, north and southeast had been developed with buildings (mainly residential) and roads. Other significant features identified in the historical plans within the vicinity of the site between 1857 and 1899 include a sandstone quarry (about 230m northeast), a clay pit (240m north), an old quarry (240m southeast), railway lines (about 50m northwest and 230m east), Jarrow Chemical Works (some 620m southwest), a chemical facility (340m south), a brick yard (immediately west of the site), a graveyard (some 100m northwest), South Shields Works (390m west), a stone yard (130m west), the 'West Docks' (some 470m west), Ballast Hills (from immediately north of the site), brick works (200m southwest), Temple Town Brass Works (364m southwest), Shipbuilding & Engineering Works (450m west), Borough Foundry & Engine Works (400m southwest), metal foundry, engineering works and boatbuilding works (from about 340m west), old quarry (440m southeast), coal depots (140m north and 320m southeast), Beehive Glass Works (300m east), Refuse Dispatch Station (340m east), Tramway Depot (350m east), stone yard (310m east), St Hilda Colliery (500m northeast), Cart & Rolley Works (340m north), Templetown Old Pit (Manor Wallsend Colliery) (some 490m southwest) and additional residential and light commercial development within the surrounding land.

The subsequent historical maps also recorded a number of features including a tramway (immediately east of the site), an electric theatre (later renamed Palace Cinema) (immediately northeast of the site), Packing Works (500m southwest), timber yard (600m southwest), Corporation Slaughterhouses (420m north), Iron Foundry (from some 170m northwest), Tyne Flint Glass Works (290m northwest), Holborn Engineering Works (270m northwest), North Eastern Foundry (180m northwest), Stone Quay Shipbuilding Yard (360m northwest), an electricity sub-station (immediately south of the site), Repair Works (Oil Drums) (350m southwest), Factory (Cooked Meat) (480m southwest), Slipper Factory (immediately northeast of the site and 200m northeast), Clothing Factory (260m northeast), Paint Factory (310m northeast), Ships Store depots (from 250m west), a bakery (100m west), depots, a warehouse, a yard, a clothing factory and an electricity sub-station (immediately west of the site).

By 1982, the Rekendyke industrial estate had been constructed immediately west of the site. In addition, a garage was located immediately northwest of the site by 1989 (the garage was no longer shown by 1994). Apart from the development of new roads, car parking spaces and buildings within the surrounding land, no other significant land use changes have been identified within the surrounding land by 2011.

6.0 GEOLOGICAL AND ENVIRONMENTAL SETTING OF THE SITE

6.1 General

The geological and geoenvironmental setting of the site has been determined primarily from the information contained within the references listed in Section 2.1 of this report. Where reference is made to other information sources with respect to the geoenvironmental setting of the site, the source used is stated in the text.

6.2 Geological Setting

Based on the published geological maps of the area (Sheet 21, Sunderland, 1:50,000 scale and Sheet NZ 36 NE, 1:10,560 scale) (both Solid and Drift Editions), the site is underlain by superficial deposits comprising Laminated Clay, with the Glacial Till (Boulder Clay) being present to the east and northeast of the site. The underlying solid geology comprises Middle Coal Measures strata, which contain a number of coal seams. The geological map indicates that the rockhead is at around -5m to +5m AOD in the site area, with the rock surface dipping towards the River Tyne.

The Usworth and the Bottom Hebburn Fell coal seams are shown to be subcropping approximately 260m south and 380m south, respectively, and dipping to the south away from the site.

Ground investigations carried out since 1991 indicated the presence of a variable made ground thickness of 0.2 to 5m, overlying Glacial Till and/or Laminated Clay, with the bedrock of sandstones encountered at a depth of 5.5m to 12m bgl.

The investigation, including rotary drilling, by PB indicated a bedrock depth of 6.6m to 7.9m bgl (about +0.5m AOD to +1.3m AOD) in the eastern part of the site. No coal seams were encountered in the rotary borehole drilled in this area to a depth of 22.5m bgl, with the rockhead encountered at 7.9m bgl.

6.3 Hydrology

The nearest surface water feature (River Tyne) is located 333m northwest of the site. No surface water abstractions are recorded within 1km of the site.

The site is not within any fluvial or tidal flood plain. However, an area at risk from extreme flooding from river or sea without defences is present some 210m northwest of the site.

6.4 Hydrogeology

According to the Envirocheck Report, the superficial strata underlying the site (Laminated Clay) is classified as 'Unproductive Strata', which indicates a layer of low permeability with negligible significance for water supply or river base flow. The underlying solid strata (Middle Coal Measures) is classified as a 'Secondary A' aquifer, which refers to permeable layers capable of supporting water supplies to a local rather than strategic scale, and in some cases forming important source of base flow to rivers.

In addition, an area underlain by solid strata comprising Lower Magnesium Limestone, and which is classified as a 'Principal' aquifer is recorded some 400m east of the site. However, it

should be noted that the limestone is geologically younger and has been eroded at the site. Therefore, no plausible hydraulic continuity is present between the 'Secondary A' aquifer underlying the site and the 'Principal' aquifer east of the site.

The soils underlying the site have been classified as having a High Leaching Potential (U), although it should be noted that soil information for restored mineral workings and urban areas is based on fewer observations than elsewhere and a worst-case vulnerability classification (H) is assumed until proven otherwise.

No groundwater abstraction points or groundwater Source Protection Zones (SPZs) are recorded within 1km of the site.

6.5 Coal Mining and Ground Stability

Halcrow (2007), based on a Coal Authority report, stated that the site is underlain past underground workings in four coal seams at 120m to 310m depth (last worked in 1947). A more detailed mining report in Dunelm (2009) report stated that the site is underlain by workings in five coal seams, the shallowest being the High Main Seam at a depth of about 192m below ground level. There are no recorded mine shafts or adits within, or within 20m of the site boundary.

An examination of the published 1:10,000 scale geological map indicated that the site may also be underlain by a number of thin seams underlying the Usworth seam and as well as coal seams of workable thickness (up to 1m thick), which are the Top and Bottom Ryhope Five Quarter, Ryhope Little and Moorland seams, before the High Main is reached.

The Envirocheck Report indicates that there is a moderate potential for compressible ground stability hazard at the site. A low potential for shrinking or swelling clay ground stability hazards is indicated at the site.

The information presented in the Envirocheck Report indicates a historical well in the southeastern part of the site, and unspecified deposited materials in the northern and northwestern parts of the site. In addition, an area of unspecified deposited material is also recorded from about 10m north of the site.

A BGS Recorded Mineral Site (named 'Ballast Hills Brick Field') is indicated 175m north of the site, where 'Common Clay and Shale' was mined using opencast methods. Another BGS Recorded Mineral Site (named 'Westoe') is recorded 240m northeast of the site. Sandstone was mined at this site using opencast methods. Mining had ceased at both sites. No other BGS Recorded Mineral Site is recorded within 250m radius of the site.

The nearest areas of potentially infilled land (non-water) are recorded some 144m north, 173m southwest and 222m northeast of the site.

6.6 Landfilling

According to the Envirocheck Report, a historical landfill (named West Dock) site is recorded about 250m northwest of the site, located at Commercial Road, South Shields. No information is given relating to the types of wastes accepted at this facility or the operational dates. Another historical landfill site (named West Holborn) is recorded 258m northwest, and was in operation during March 1983. No deposited waste types are indicated.

Seven other historical landfill sites are recorded between 600m and 1km from the site. The historical landfill sites located about 650m southwest and 750m south accepted waste

including inert waste, while three sites accepted deposited waste including inert waste, industrial, commercial and household waste.

A BGS recorded landfill site (referring to 'Tyne Dock') is indicated about 950m southwest of the site. No information is given regarding the types of waste deposited at this landfill site.

6.7 Radon

Halcrow (2007) stated that the radon maps provided in BRE 211 indicated that basic radon protection might be required. They recommended that a geological assessment should be carried out and consideration should be given to installing basic measures if the assessment showed that they were necessary. However, Dunelm (2009) stated that in accordance with BRE Publication BR211 *Radon: Guidance on Protective Measures for New Dwellings*, no radon protection measures were required.

According to the Envirocheck Report, the site is in a lower probability radon area, as less than 1% of homes are above the action level. Consequently, no radon protective measures are necessary at the site. A review of the radon maps published BRE (Ref. 1 Section 2.1) also indicate that no radon protection measures are required for development the site.

6.8 Gas Regime

Monitoring carried out on four occasions during 2003 investigation by Halcrow indicated significant concentrations of methane (up to 5%, generally in the northern half of the site) and carbon dioxide (up to 23.5%, with highest concentrations in the in the southwest corner of the factory) at a number of installations, with a maximum flow rate of 0.6 l/hr. Laboratory analysis on a number of samples confirmed the field monitoring results. Atmospheric pressures during monitoring visits have not specified. Halcrow attributed the methane and carbon dioxide generation to the presence/breakdown of organic chemicals that had leaked into the ground.

Halcrow (2007) recommended gas protection measures for future developments at the site, based on *Building Regulations Approved Document C* (Office of the Deputy Prime Minister, 2004) and CIRIA C569. For low rise residential use the site was classified as Amber 2 category. Based on BRE report 414, they considered that high level gas protection measures comprising a membrane and ventilated sub-floor void would be required.

Since Halcrow's report, gas risk assessment has been revised in CIRIA C665 (2007) '*Assessing risks posed by hazardous ground gases to buildings*' and a new British Standards BS 8485: 2007 '*Code of practice for the characterization and remediation from ground gas in affected developments*' has been published. In addition, NHBC has also published guidance on gas protection measures for residential dwellings in March 2007 '*Guidance on Evaluation of Development Proposals on Sites where Methane and Carbon Dioxide are Present*'.

Gas monitoring carried out by Dunelm at four installations on three occasions in 2008/9 during the demolition works indicated no methane but slightly elevated carbon dioxide (up to 6%) recorded in one monitoring well.

In the text, Dunelm erroneously stated that the maximum flow rate was 1.1 l/hr. The maximum gas screening value for carbon dioxide was calculated as 0.72 l/hr. However, the summary table in the report and an examination of the gas monitoring results indicate that the flow rates recorded were below detection, except in one installation it was recorded as 12 l/hr on two occasions, however no methane or carbon dioxide were recorded in this installation. The monitoring was carried out at atmospheric pressures of 994 to 1019 mbars.

Dunelm then used the maximum flow rate of 12.1 l/hr and maximum carbon dioxide

concentration of 6%v/v and calculated a maximum gas screening value of 0.72 l/hr and stated that the site is in Characteristic Situation 3 as defined in Table 8.5 of CIRIA C665. They recommended further gas monitoring to confirm this classification. It is considered that the monitoring carried out by Dunelm was very limited and the reported maximum flow rate of 12.1 is anomalous.

Gas monitoring carried out by PB (2009) on six occasions between 24 February and 1 April 2009 in a number of installations east of the Circatex factory area indicated slightly elevated carbon dioxide (less than 1.9%) and no methane, with maximum flow rate of 0.2 l/hr.. The monitoring was carried out at atmospheric pressures of 993 to 1028 mbars. Using NHBC traffic light system PB concluded that the site should be classified as 'Green', requiring no gas protection measures.

Note: Monitoring of ground gases has been undertaken during the current investigation in a number of installations as well as still functional previous monitoring wells installed by BP (2009). The subsequent ground gas risk assessment (using the current NHBC guidance) is presented in Section 10 of this report.

6.9 Statutory Registers and Environmental Status

Discharge Consents

Two discharge consents are located some 33m south of the site, at Eldon Street Cso, Junction of Eldon Street & Reed Street, South Shields. These consents are recorded to be operated by Northumbrian Water Limited, effective from 1 April 2010 (revoked on 1 December 2010) and 2 December 2010, respectively. They relate to sewage discharges (storm overflow) into the Tyne estuary. It is indicated that these consents have been modified under the 'Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995'. Two other sewage discharge (storm overflow) consents operated by Northumbrian Water Limited are also recorded 122m south of the site. One of the consents was effective from 2 September 1992 to 28 January 2005 and is now revoked. The other consent was effective from 28 January 2005, and it is indicated that a new consent has been acquired for this discharge under the 'Water Resources Act 1991, Section 88'.

Thirty-three other discharge consents are recorded within 307m and 482m from the site.

Integrated and Local Authority Pollution Prevention and Controls

Nine 'Integrated Pollution Controls' are recorded approximately 100m west at the 'Circ Realisations Ltd' facility located at Eldon Street, South Shields. These 'Integrated Pollution Controls' relate to processes involving halogens within the chemical industry, and are indicated to either revoked or superseded by a substantial or non substantial variation. Three other 'Integrated Pollution Controls' are recorded at 189m northwest, 193m northwest and 291m northwest, relating to the coating processes and printing at the 'Tyne Dock Engineering Ltd' facility located at Hill Street, South Shields.

A 'Local Authority Integrated Pollution Prevention and Control' is recorded 104m west of the site, relating to plastic coating at the 'Circatex Ltd' facility located at Eldon Street, South Shields. The status of this 'Local Authority Integrated Pollution Prevention and Control' is indicated as 'application not yet authorised'.

Four 'Local Authority Pollution Prevention and Controls' are recorded within 104m and 226m from the site. These relate to 'coating of metal and plastic' and 'respraying of road vehicles' businesses. Seven other 'Local Authority Pollution Prevention and Controls' are recorded between 252m and 410m from the site.

Pollution Incidents to Controlled Waters

A pollution incident to controlled waters is recorded in the northern part of the site. This refers to a Category 3 – Minor Incident to the Lower Tyne catchment area (coastal water) on 1 October 1996. The pollutant involved is recorded as ‘chemicals – acid’. No fish was killed by this incident. Another pollution incident to controlled waters (a Category 3 – Minor Incident to a saline estuary) is recorded 355m northwest of the site. The cause of the incident which occurred on 23 May 1992 is recorded as ‘other oil’, although the pollutant involved is not given. A Category 3 – Minor Incident to a saline estuary, which occurred on 29 August 1995, is also 418m northwest of the site. The pollutant involved is given as ‘other sewage’.

No other pollution incident to controlled waters are recorded within 500m radius of the site.

Prosecutions Relating to Authorised Processes

A ‘Prosecutions Relating to Authorised Processes’ is recorded 3m northwest of the site. This relates to the ‘failure to ensure the proper disposal of waste from the business’.

Registered Radioactive Substances

An authorised ‘Registered Radioactive Substances’ site is recorded 345m north of the site, relating to ‘McNulty Offshore Construction Ltd’ located at Commercial Road, South Shields. The process type is indicated as ‘authorisation under S13 RSA for the disposal of radioactive waste (was RSA60 S7)’. Two other ‘Registered Radioactive Substances’ sites are recorded 361m west and 722m north of the site, respectively.

Substantiated Pollution Incident Register

A substantiated pollution incident register is recorded 448m southwest of the site. This relates ‘inert materials and wastes: soil and clay’, specific waste materials: commercial waste, contaminated construction and demolition material & waste and metal wastes’ pollutants, which occurred on 20 April 2006. The following impacts are recorded for this incident: Water impact (Category 4 – No Impact), Air impact (Category 4 – No Impact) and Land impact (Category 2 – Significant Incident).

Trade Directories

Two inactive contemporary trade directory entries are located in the southeastern part of the site, relating to ‘plaster manufacturers & suppliers’ and ‘wrought ironwork’ businesses. Inactive contemporary trade directory entries relating to ‘fencing manufacturers’ and ‘printers’ businesses are located 5m east and 15m northwest of the site, respectively. The nearest active contemporary trade directory entry (a ‘sheet metal work’ business) is located 43m southwest of the site. An active ‘wrought ironwork’ business is also recorded 72m northwest of the site.

A total of 49 contemporary trade directory entries are recorded within 250m radius of the site. Reference should be made to the Envirocheck Report (Appendix B) for details of other contemporary trade directory entries recorded within the surrounding land.

Designated Sites

There are no sensitive land uses within 1km of the site.

6.10 Summary of Potential Contaminative Sources Affecting the Site

Based on the historical land use of the site and its immediate vicinity and a review of the following Department of Environment (DOE) Industry Profile.

Engineering works: electrical and electronic equipment manufacturing works (including works manufacturing equipment containing PCBs).

It is possible that contaminants that may be present at the site includes but is not limited to:

Metals and metalloids, sulphates, cyanide, acidity/alkalinity, phenols, polycyclic aromatic hydrocarbons (PAHs), petroleum hydrocarbons (TPHs), polychlorinated biphenyls (PCBs), chlorinated solvents and asbestos.

Additionally, any made ground present at the site associated with the other historical land uses of the site (slipper factory, clay pit, tank works etc.) may provide a contamination source for unknown determinants. Any made ground present at the site and within the surrounding land have the potential to generate hazardous ground gases which could negatively impact upon the proposed development.

The previous contamination assessment undertaken at the site by PB (2009) indicated zone-wide exceedances of assessment criteria within the made ground soils, comprising principally benzo(a)anthracene, chrysene, benzo(b)fluoranthene and aromatic hydrocarbons C12-C35. Dunelm (2009) also recorded elevated concentrations of heavy metals and metalloids (arsenic, chromium and copper), organics (TPH aliphatic C10-C12, C12-C16, and benzo(a)pyrene), some volatile organic compounds and semi volatile organic compounds within the made ground.

A geoenvironmental risk assessment, based upon the results of the current investigation combined with those from the previous PB and Dunelm investigations is presented in Section 9.0 of this report.

7.0 GROUND INVESTIGATION

7.1 Fieldwork

A ground investigation was scoped based on a review of all available information and taking into consideration the preliminary layout and general details of the proposed scheme and site access conditions. No investigation was undertaken in the eastern part of the site occupied by residential/commercial properties and Frederick Street/New George Street, at the instruction of South Tyneside Council. The intrusive ground investigation was carried out by AEG under technical direction of Cundall Geotechnical.

The investigation and laboratory testing was carried out in general accordance with BS 5930, BS 1377, BS EN 1997 and BS 10175, BS EN ISO 14688, BS EN ISO 14689 and BS EN IOS 22475-1. The fieldwork was carried out from 19 to 30 September 2011.

The ground investigation comprised the following:

- 10 No cable percussive boreholes (CBH1 to CBH10), extended to rockhead, to confirm the thickness and nature of superficial deposits/made ground, obtain data for preliminary foundation design, and acquire soil samples for geotechnical testing. 4 No. of these boreholes (CPH1, CBH4, CBH9 and CBH10) were continued with rotary drilling 5m into the rock strata to identify the nature of bedrock and to collect rock samples for geotechnical assessment.
- 18 No windowless sample probeholes (WS1 to WS15) were undertaken to supplement the cable percussion boreholes and to further investigate the shallow ground conditions, assess the strength properties of the near surface soils for geotechnical design and allow the collection of soil samples for geotechnical and chemical analysis. The windowless sample probeholes were extended to depths up to 6.45m bgl.
- Hand dug inspection pits were excavated prior to commencing all exploratory holes.
- 4 No hand dug trial pits (HTP1 to HTP04) were carried out in the bund area circling the Circatex site. The hand dug pits were extended to a depth of 1.2m bgl to allow the collection of samples for chemical analysis.
- 7 No trial trenches (TT01 to TT07) to a maximum depth of 4.5m were carried out to investigate the presence of relict structures at selected locations in the Circatex site.
- Standard Penetration Tests (SPTs) were carried out in the cable percussion boreholes and also in the windowless sample boreholes.
- 16 No Panda probes to determine insitu CBR.
- 6 No infiltration tests were carried out in 4 No window sample holes (CWS3, CWS8, CWS10).
- 50mm combined gas/groundwater monitoring standpipes were installed in 6 No exploratory holes (CBH1, CBH2, CBH4, CBH7, CBH8 and CBH10) to allow the measurement of groundwater levels, ground gas concentrations (oxygen, carbon dioxide, methane, hydrogen sulphide) and gas flow rates.

- 6 No. gas and groundwater monitoring visits have been undertaken between 3 October and 24 November 2011, following completion of the fieldwork on 30 September. Gas and groundwater monitoring was also undertaken during the fieldworks period.

Detailed engineering logs for the exploratory holes, as well as the gas and groundwater monitoring results are contained in the Factual Report produced for the site by AEG Ltd. The exploratory hole location plan is presented as Figure 3.

7.2 Laboratory Testing

The following laboratory tests were undertaken on selected soil and rock samples in order to assess the engineering properties of the underlying soils and to assess the contamination status of the site soils and groundwater.

Geotechnical Testing:

- Atterberg limit, natural moisture content determination and particle Size Distribution (PSD) tests for the general classification of soils.
- Undrained shear strength tests on 100mm diameter U100 samples in triaxial compression without the measurement of pore pressure.
- One dimensional consolidation (oedometer) tests.
- Compaction (earthworks) tests on soil samples.
- Point load strength and uniaxial compressive strength tests on rock cores.
- Geochemical tests of soil samples to determine water soluble sulphate content (SO4 2:1 soil/water extract) and pH value.

Chemical (Contamination) Testing

A total of 21 No soil samples (all made ground) were subjected to laboratory analysis for some or all of the following determinants:

- Metals [arsenic, cadmium, chromium (total and VI), copper, lead, mercury, nickel, selenium, zinc], cyanide (free and total), pH, sulphate (total), boron (water soluble), soil organic matter (SOM), thiocyanate, phenol, Polycyclic Aromatic Hydrocarbons (PAH total and speciated USEPA 16), Total Petroleum Hydrocarbon (C5-C40 aliphatic/aromatic split TPHCWG), BTEX [benzene, toluene, ethylbenzene, xylenes], methyl-tertiary butyl ether (MTBE), polychlorinated biphenyls (PCBs), dibutyltin, trichloroethylene, asbestos, waste acceptance criteria (WAC) and calorific value.

In addition, 8 No selected groundwater samples (collected from both current and previous PB installations throughout the general site) were subjected to testing for the some or all of the following determinants:

- Metals [arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, zinc], boron, pH, cyanide, phenol, sulphate, chloride, PAH (USEPA 16 speciated), TPH (C5 – C40, PRO/DRO/MRO split), ammoniacal nitrogen, dibutyltin, trichloroethylene and semi-volatile organic compounds (SVOCs).

Geotechnical laboratory testing was carried out by AEG in accordance with BS 1377:1990 and BS EN 1997 Part 2. The geochemical testing for aggressive environment to concrete foundations was carried out by DETS in accordance with BRE Special Digest 1:2005. The geochemical testing was subcontracted to Derwentside Environmental Testing Services (DETS), a UKAS and MCERTS accredited laboratory. Full records of the test results are included in the Factual Report.

8.0 GROUND CONDITIONS AND PROPERTIES

8.1 Findings of the Current Ground Investigation

A summary of the ground conditions encountered during this phase of investigation is given below:

Proven Ground Conditions					
	Description	From (m bgl)	To (m bgl)	Thickness (m)	Exploratory Holes
Superficial Soils (excluding grass cover)					
Tarmac /subbase	Locally present in car park area/limestone subbase.	0.0	0.05/0.25	0.05	CBH8, CWS9
Made Ground	Heterogeneous comprising both 'granular and 'cohesive' units: varying from silty gravelly sand to clayey very gravelly sand to slightly gravelly sandy clay, sand comprising ash with gravels of sandstone, brick, clinker, concrete, occasional pottery, flint, slag, metals; some cobbles and occasional boulders of brick and concrete. Locally gravelly silty sand or sandy gravel with sand comprising ash, clinker and slag, occasional coal (ash fill). Locally gravels and cobbles of concrete (demolition rubble)	GL	1.0 – 4.5	1.0 – 4.5	All exploratory holes
Relict Topsoil (?)	Soft to very soft grey to black organic slightly gravelly sandy clay to sandy silty clay with some organic material	1.8 – 3.7	1.9 – 4.1	0.1 - 0.5	CBH1, CBH2, CBH4, CWS1 to CWS7. CWS12, CWS14a, CWS15
Laminated Clay	Generally firm thinly to thickly laminated and closely fissured slightly sandy clay, occasional interlaminations of silty fine to medium sand.	2.5 – 4.5	3.3- 6.7	0.3 – 2.1 (where proven)	CBH3, CBH5, CWS6, CBH6, CBH9, CBH10
Glacial Till	Topmost 0.4 to 1.1m weathered soft to firm, underlain by generally firm becoming stiff to very stiff slightly sandy slightly gravelly clay, with low locally medium cobble content, with gravels/cobbles of sandstone, siltstone and occasional coal. Localised granular pockets/bands comprising silty sand.	1.0 - 4.5	4.5 – 12.9 (where proven)	1.1 – 8.7 (where proven)	All exploratory holes (excluding some trial trenches and hand dug pits)
Bedrock					
Coal Measures	Sandstone (see text for details)	4.5 – 12.9	> 16.6	Not proven	All boreholes (except CBH5 and 7), CWS13 CBH9 only
	Mudstone (see text for details).	15.6	>18.5	Not proven	

Visual and/or Olfactory Evidence of Contamination

During the current investigation, no significant visual and/or olfactory evidence of hydrocarbon contamination was observed at the site. However, the following visual/olfactory evidence of potential contamination were recorded within the shallow made ground at the site:

- Ash, slag, clinker, burnt red shale, metals, timber fragments, occasional tarmac fragments were recorded in many exploratory holes in both cohesive and granular made ground.
- A moderate chemical odour was recorded within made ground at 1.7m depth bgl at the location of exploratory hole CWS5. *(NB: a soil sample at this depth was subjected to chemical analysis).*
- Groundwater recorded at TT3 location (3m depth) was observed to be slightly oily with strong stagnant odour.
- A moderate creosote odour was recorded at CWS1B (2.1m depth). The log descriptions for this hole indicate that black timber fragments were recorded at this depth, which are considered to be associated with the creosote odour.
- Purple and black staining (possible chemicals) was recorded at CBH7 (1.8m depth). *(NB: this was a localised occurrence and therefore no chemical analysis was undertaken on soil at this depth).*

Ground Conditions

The following descriptions of various strata identified at the site have been based on the exploratory hole and inspection pit logs from the current investigation and the records of boreholes/window sample holes/trial pits from previous investigations.

Representative geotechnical ground models (cross sections) taken in approximately N-S and E-W directions across the site are presented as Figures 4a to 4f. The locations of the cross sections are shown in Figure 3. The borehole information from WSP/Halcrow 2003 as well as PB 2009 and Dunelm 2009 investigations are also shown in Figures 4a to 4f. However, the borehole locations and elevations shown on these figures from previous investigations are approximate as no detailed and accurate topographical data are available from these investigation with the exception of PB 2009 investigation.

Figure 5 indicates the made ground thickness (including relict topsoil, where identified) revealed at each exploratory hole location together with approximate thickness contours drawn at 1.0m, 2.5m and 4.0m, based on the results of current investigation together with those from PB 2009 investigation. It is to be noted that there are differences in the made ground thickness identified between the current and Dunelm investigations, especially in the central and northwestern parts of the Circatex site.

The approximate depth to bedrock contour plan is given as Figure 6.

Relict Foundations

A number of trial trenches, about 2 to 12m long, were excavated to a depth of between 2.0m and 4.1m in the grassed area formerly occupied by Circatex factory, including the area indicated as containing remnant foundations on Holystone plan. However, no relict foundations were present in these trial trenches. Boreholes and window sample holes did not encounter any relict foundations with the exception of CWS14 located in the demolished pub area. A concrete obstruction (possible concrete base to cellar?) was encountered at 2.0mbgl in this window sample hole, but CWS14A drilled a few metres southwest did not encounter any concrete in this area.

Elsewhere (along Frederick street and New George Street), the infrastructure and buildings are largely intact, although some are currently unoccupied.

Topsoil

Topsoil, generally less than 0.1m thick was encountered only in the grassed Circatex factory site.

Made Ground

Exploratory hole logs indicate a relatively thick and heterogeneous layer of made ground, varying from 1.0m to 4.5m thick across the investigated area of the site. In addition, an earthbund, between about 0.5 and 1.0m high, comprising made ground is present around the former Circatex site. Only hand dug pits, to a maximum depth of 1.2m, were excavated on the bund area. The thinnest made ground was encountered in the northeastern corner of Circatex factory site (1.6m in CWS11 and 1.0m thick in CWS13). Thickest made ground appears to be present in the southwestern corner of the site (e.g. CBH1 and CWS3 about 4.0m thick) and in the car park area in the east (e.g. CWS9 at 4.1m and CBH8, 3.5m).

The made ground at the site is very heterogeneous varying in composition from firm to stiff, locally desiccated, slightly sandy gravelly clay with low cobble content to silty very gravelly sand with some cobbles. Cobble and gravel fractions comprise brick, concrete, sandstone, occasional flint, clinker, slag, coal, rare metals, plastic, pottery, rebar, glass. Sand includes ash. In some trial trenches and boreholes, material described as 'ash fill' was encountered, generally at a depth of over 1.0m (e.g. CBH3 at 2.2 to 3.4m depth, CBH5 at 2.4-2.9m depth, CBH6 at 1.9 to 2.95m depth, CSW7 at 2.1 to 2.4m, CWS9 at 1.0 to 1.4m). This layer comprised silty gravelly sand with sand being mainly ash and some clinker composition and the gravel content including slag and clinker. In some locations, ship ballast type of material was encountered (e.g. CBH5 at 1.7m depth, CWS5 at 0.7m depth) comprising silty clayey very gravelly sand with low cobble content, gravel comprising flint brick and concrete. In one location, a mixture of ash and burnt red shale was encountered (CWS12 at 1.1 to 1.4m depth).

Relict Topsoil

In some exploratory hole locations, a layer (0.1 to 0.5m thick) of generally soft grey to black organic slightly gravelly sandy clay to sandy silty clay with some organic material, described as 'possible relict topsoil', was encountered at the base of the made ground (e.g. CBH1, CBH2, CBH4, CWS1 to CWS7, CWS12, CWS14a and CWS15). This layer was observed at different levels throughout the site, from about 1.8m to 3.7m and extending to 1.9m to 4.1m bgl, possibly reflecting the original ground surface before any filling took place at the site.

Laminated Clay

The made ground/relict topsoil (where present) is locally underlain throughout the Circatex site by generally firm, thinly to thickly laminated and closely fissured slightly sandy clay with occasional interlamination of silty fine to medium sand (e.g. CBH3, CBH5, CWS6, CBH6, CBH9, CBH10). Laminated Clay was encountered at a varying depth from 2.5m bgl to 4.5m bgl, and has a variable thickness between about 0.3m and 2.1m (where full depth proven).

The topmost zone immediately underlying the made ground may be weathered (red brown coloured) as identified in some exploratory holes. This unit may also be present elsewhere on the site but may not have been identified in small diameter exploratory holes as such.

Undifferentiated Glacial Clay

A slightly sandy slightly gravelly clay with low, locally medium, cobble content (Glacial Clay) underlies the made ground/relict topsoil/laminated clay (where present) in the area investigated. Gravel content comprises sandstone, siltstone, mudstone and occasional coal and cobbles comprise sandstone and some limestone. There are thin interbeds/lenses of silty

sand within the clay. A silty sand layer/lens, about 0.5m thick, was encountered in CWS13

The topmost 0.4m to 1.1m of this stratum is generally weathered to firm locally soft orange brown to brown mottled clay. The underlying slightly weathered to fresh glacial clay, generally brown to dark brown, is generally firm becoming stiff to very stiff.

The thickness of the weathered and fresh Glacial Clay is very variable, ranging between 1.1m and 8.7m.

Middle Coal Measures

The Glacial Clay is generally underlain by sandstones within the depths drilled (5m into the rockhead, maximum of 18.6m bgl). Sandstone was encountered at a varying depth between 4.5m (CBH8) and 12.9m bgl (CBH9). Mudstone was encountered in one borehole at a depth of 15.6 to 18.5m bgl. No coal seam was encountered within the depths drilled.

The uppermost 0.1 to 1.0m of the sequence appears to be partially weathered, described as extremely weak to very weak thickly laminated thinly bedded sandstone (with zero RQDs). The underlying less weathered sandstone is generally weak to medium strong (with RQDs in the range of 30 to 60) but also contains zones of more weathered extremely weak to very weak rock (recovered as non intact). The mudstone is generally extremely weak to very weak, thinly laminated.

8.2 Engineering Properties and Behaviour

Laboratory and in-situ test results from the current and previous ground investigations have been used to determine the geotechnical properties of the soils and rocks encountered within the site.

Summary of available laboratory and insitu test results from previous Halcrow/WSP (2003), Dunelm (2009) and PB (2009) investigations are given in Tables 1a, 1b and 1c, respectively. Table 1d summarizes the laboratory and insitu test results carried out on soils during the current investigation. A summary of laboratory test results on rock strata from PB investigation is in Table 2a and from current investigation in Table 2b.

Ground aggressivity, combustability and compaction test results from previous and current investigations are dealt with separately in the relevant sections. Detailed test results from the current investigation are included in the AEG factual report.

Made Ground

Previous Investigations

The results of limited number of classification and insitu tests carried out on the made ground soils by Halcrow/WSP (2003), Dunelm (2009) and PB (2009) are summarised in Tables 1a, 1b and 1c, respectively.

Current Investigation

In Situ Testing

About forty three SPTs undertaken in the made ground stratum (including the relict topsoil) between 1m and 4.5m depth recorded 'N' values ranging from 2 to 30 (generally between 4 and 12), and one refusal value. The few values recorded wholly in relict topsoil indicated N values between 3 and 8 (generally described as soft organic sandy clay in exploratory hole logs). No distinction has been made between the values recorded in cohesive and granular

made ground, as this stratum is very heterogeneous. No SPTs were carried out within the top 1.2m depth.

There does not appear to be any increase in N values with depth in the made ground (Figure 7). However, the made ground between 1.2m and 1.5m depth appears to have a wide range of values between 4 and 23. The N values recorded in the made ground indicate generally loose (if granular) or soft to firm (if cohesive) made ground, reflecting generally poor degree of 'compaction'.

Classification Tests

Laboratory determined moisture contents on thirteen made ground samples ranged from 9% to 20%. In addition, two samples of relict topsoil tested indicated a higher moisture content of 21% and 30%. No laboratory strength tests were undertaken on made ground soils.

Laminated Clay

Previous Investigations

Results of laboratory and insitu tests undertaken on what is generally described as 'laminated clay' during previous investigations are summarised in Tables 1a to 1c.

The N values recorded on Laminated Clay by Halcrow/WSP varied between 18 and 19, moisture contents between 22 and 42 and plasticity indices between 39 and 54 (average of 44). A single triaxial test results indicated an undrained strength of 60 kPa, whereas a single hand vane test recorded an undrained strength of 53 kPa.

The N values recorded on Laminated Clay by Dunelm varied between 3 and 26, moisture contents between 19 and 44 and plasticity indices between 16 and 46 (average of 29). No strength/compressibility/bulk density tests were undertaken by Dunelm on Laminated Clays.

The N values recorded on Laminated Clay by PB varied between 11 and 36, moisture contents between 11 and 30 and plasticity indices between 12 and 36 (average of 21). The results of Atterberg tests indicated clay of low to intermediate plasticity. Three triaxial test results indicated an undrained strength between 47kPa and 118 kPa for the Laminated Clay. One one-dimensional oedometer consolidation test on a sample of laminated clay recorded a value of coefficient of compressibility, m_v , of 0.09 m^2/MN for a stress increment of overburden pressure to overburden plus 100kPa, suggesting a low compressibility clay.

Current Investigation

In Situ Testing

Eleven SPTs undertaken in the strata described as Laminated Clay recorded 'N' values ranging from 2 to 19 (generally between 8 and 15), between 1.2m and 4.5m bgl. Figure 8 indicates a general increase in N values with depth in this stratum. The Laminated Clay is generally described as soft becoming firm in the exploratory hole logs.

Classification Tests

The moisture content of seven samples of Laminated Clay (including weathered clay) ranged from 14% to 31%. Atterberg limit tests scheduled on three samples recorded a plasticity index (PI) between 28% and 42%, with an average PI of 34%. Based on these results the Laminated Clay can generally be classified as being of medium to high plasticity. The bulk density values determined on four samples ranged between 1.94 Mg/m^3 and 2.25 Mg/m^3 .

Undrained Shear Strength

Four samples of Laminated Clay taken between 3.2m and 5.2m depth recorded undrained shear strengths (C_u) between 74 kPa and 200 kPa (indicating high to very high strength clay). These limited laboratory determined strength values are considered to be rather high and do

not reflect the true strength of the insitu Laminated Clay as indicated by N values and log descriptions.

Approximate undrained shear strength values can be derived from SPT N values using the approximate relationship suggested by Stroud (1974). Derived undrained strength values range from 34 kPa to 80 kPa, based on recorded SPT N values of 8 to 19 in this stratum (excluding low value of 2), using a correlation coefficient of 4.2 based on a PI > 30 (based on current and Dunelm investigation results). It should be noted that Laminated Clay is locally present at the site.

Undrained shear strength value versus depth plot for the Laminated Clay unit is given in Figure 9.

Compressibility

Three one-dimensional consolidation (oedometer) tests were undertaken on undisturbed (U100) samples of Laminated Clay taken between 3.2m and 5.2m depth. The results recorded a coefficient of volume compressibility (m_v) ranging from 0.15 to 0.25 m^2/MN for a stress range of 50 kPa to 100 kPa and from 0.17 m^2/MN to 0.19 m^2/MN for a stress range of 100 kPa to 200 kPa.

Approximate m_v values can be derived from SPT N values using the approximate relationship suggested by Stroud (1974). Derived m_v values range from 0.12 m^2/MN to 0.28 m^2/MN , based on recorded SPT N values of 8 to 19 in this stratum (excluding low value of 2), using a correlation coefficient of 0.45 based on a PI > 30. These results indicate the Laminated Clay to be of low to medium compressibility.

Undifferentiated Glacial Clay

Previous Investigations

Results of laboratory and insitu tests undertaken on undifferentiated Glacial Clay during previous investigations are summarised in Tables 1a, b and c.

The N values recorded on Undifferentiated Glacial Clay by Halcrow/WSP varied between 22 and 47, moisture contents between 11 and 32 and plasticity indices between 20 and 43 (average of 28). A single triaxial test results indicated an undrained strength of 44 kPa, whereas six hand vane tests on laboratory samples (not suitable for triaxial testing) recorded an undrained strength between 50 kPa and 79 kPa.

The N values recorded on Undifferentiated Glacial Clay by Dunelm varied between 4 and 65, moisture contents between 9 and 29 and plasticity indices between 13 and 33 (average of 20). Three triaxial test results indicated an undrained strength between 73 kPa and 150 kPa for the glacial clay.

Tests carried out on 'organic' glacial clay samples by Dunelm indicated a water content of 21 to 42% (4 results) and a plasticity index value of 25 to 52 (3 results).

The N values recorded on Undifferentiated Glacial Clay (designated as Glacial Till) by PB varied between 10 and 47, moisture contents between 10 and 36 and plasticity indices between 14 and 32 (average of 19). Based on these results the Glacial Clay can generally be classified as being of low to intermediate plasticity. Two triaxial test results recorded undrained shear strengths of 52 and 107 kPa. Two one-dimensional oedometer consolidation tests on Glacial Clay samples recorded values of coefficient of compressibility, m_v , of 0.17 m^2/MN and 0.20 m^2/MN for a stress increment of overburden pressure to overburden plus 100kPa, suggesting a medium compressibility clay.

Current Investigation

In Situ Testing

About fifty seven SPTs undertaken in the Glacial Clay recorded 'N' values ranging from 2 to 48 and eight refusal values, at depths between 2m and 9.5m bgl (Figure 8). The refusal values are attributed to the presence of localised cobbles/boulders present within the clays. The low values, say between $N = 5$ and 15, were generally recorded within the weathered clay, between 1.2m and 4m depth, indicating generally low to medium strength clay, whereas in the slightly weathered to unweathered clay N values were generally in excess of 15, indicating high becoming very high strength clay.

Classification Tests

The moisture content of eighteen samples of Glacial Clay (including weathered clay) ranged from 10% to 30%. Atterberg limit tests scheduled on seven samples recorded a plasticity index (PI) between 18% and 40%, with an average PI of 28%. Based on these results the Glacial Clay can generally be classified as being of low to intermediate plasticity.

The bulk density values determined on eleven samples ranged between 2.00 Mg/m^3 and 2.28 Mg/m^3 .

Undrained Shear Strength

Three samples of weathered Glacial Clay taken between 3.2m and 4.5m depth recorded undrained shear strengths (C_u) between 74 kPa and 94 kPa (indicating high strength clay). Eight samples of slightly weathered to fresh Glacial Clay taken between 2.0m and 8.5m depth recorded undrained shear strengths (C_u) between 85 kPa and 358 kPa (indicating high to extremely high strength clay).

Approximate undrained shear strength values can be derived from SPT N values using the approximate relationship suggested by Stroud (1974). Derived undrained strength values range from 36 kPa to 189 kPa, based on recorded SPT N values of generally 8 to 42 in this stratum (excluding few low values of less than 8), using a correlation coefficient of 4.5 based on a $PI = 28$.

Undrained shear strength value versus depth plot for the Glacial Clay stratum is given in Figure 9, which indicates that strength of Glacial Clay increases with depth.

Compressibility

Three one-dimensional consolidation (oedometer) tests were undertaken on undisturbed (U100) samples of weathered Glacial Clay taken between 3.2m and 4.5m depth. The results recorded a coefficient of volume compressibility (m_v) between 0.24 and $0.31 \text{ m}^2/\text{MN}$ for a stress range of 50 kPa to 100 kPa and between $0.19 \text{ m}^2/\text{MN}$ to $0.21 \text{ m}^2/\text{MN}$ for a stress range of 100 kPa to 200 kPa.

Two one-dimensional consolidation tests undertaken on unweathered Glacial Clay recorded coefficients of volume compressibility (m_v) of 0.19 and $0.22 \text{ m}^2/\text{MN}$ for a stress range of 50 kPa to 100 kPa and $0.15 \text{ m}^2/\text{MN}$ to $0.16 \text{ m}^2/\text{MN}$ for a stress range of 100 kPa to 200 kPa.

Approximate m_v values can be derived from SPT N values using the approximate relationship suggested by Stroud (1974). Derived m_v values range from $0.26 \text{ m}^2/\text{MN}$ to $0.05 \text{ m}^2/\text{MN}$, based on recorded SPT N values of 8 to 42 in this stratum (excluding low values below 8), using a correlation coefficient of 0.48 based on $PI = 28$. These results indicate the Glacial Clay to be of low to medium compressibility.

Bedrock

Previous Investigation

Limited point load strength (PLS) tests carried out by BP (2009) on sandstone bedrock samples recovered from eastern part of the development site indicated point load index values between 0.73 and 1.49 MPa (Table 2a). Four uniaxial compressive strength (UCS) tests on rock cores gave strength values between 23 and 35 MPa, indicating a moderately strong rock. However, weaker friable rock samples closer to the rockhead were not tested. Mudstone encountered in one borehole at -10.0m AOD was generally described as very weak to weak. PB used an assumed correlation coefficient of 20 when converting point load strength values to uniaxial compressive strength values (Table 2a).

Current Investigation

Eight uniaxial compressive strength tests were carried out on the rock cores recovered from rotary holes drilled in the Circatex site, within about the first 6m of the rockhead. The test results indicated UCS values ranging from 16.7 MPa to 30.8 MPa (Table 2b).

Fifteen point load strength tests were carried out on the rock samples (12 No sandstone; 2 No siltstone and 1 No mudstone) recovered from rotary holes, within the first 6m of the rockhead.

Figure 10 is a plot of uniaxial compressive strength versus point load strength determined on tests carried out on sandstone cores. In this plot the point load and uniaxial strength tests carried out on immediately adjacent cores or part of the same core piece have been plotted to determine the approximate relationship between UCS and PLS. In the published literature the correlation coefficient varies between 16 and 24 depending on rock type, anisotropy, etc. From the plot in Figure 10 the following approximate relationship has been derived:

$$\text{UCS (MPa)} = 18 \times \text{PLS (MPa)}$$

The point load strengths of sandstone samples tested were between 0.79 MPa and 2.8 MPa. An equivalent UCS strength ranging from 14.2 MPa to 50.4 MPa has been determined, using the site determined correlation factor of 18 x PLS. The rock test results are summarised in Table 2b.

The point load strength of the two siltstone samples (locally present) tested were both .03 MPa, giving an equivalent UCS strength of 0.5 MPa.

The point load strength of the single mudstone sample tested was both .023 MPa, giving an equivalent UCS strength of 4.1 MPa. Although more mudstone samples (which was only present in CBH10) were scheduled to be tested, these were found to be unsuitable by the testing laboratory.

The rock test results indicate that sandstones (within about 6m of the rockhead) are mostly weak to medium strong and siltstones are mainly extremely weak and mudstones are very weak. However, these test results do not truly represent the strength of the intact rock as weaker samples recovered in rotary boreholes were unsuitable for testing and were therefore not selected for laboratory testing.

The borehole logs indicated a Rock Quality Designation (RQD) of generally between 30 and 70%, locally zero, in the sandstone within the first 6m of the competent rock. The uppermost 0.5 to 1.0m of the bedrock appears to be partially weathered to extremely to very weak rock, generally recovered and described as very dense angular gravel of sandstone.

8.3 Ground Aggressivity

Previous investigation

Results of ground aggressivity tests undertaken on site soils during previous investigations are summarised in Tables 3a, b and c.

The previous investigation by Halcrow tested nine made ground samples taken from 0.5m to 2.5m bgl, giving soluble sulphate concentrations of less than 100 mg/l to 940 mg/l, with pH values ranging from 7.5 to 11.1 (Table 3a).

The previous investigation by Dunelm tested forty made ground, six Laminated Clay and thirteen Glacial Clay and three Glacial Sand samples in the former Circatex factory area (Table 3b). Soluble sulphate concentration on made ground soils ranged between 29 and 1789 mg/kg, with pH ranging between 7.6 and 11.4. Soluble sulphate concentration on laminated clay and glacial clay samples ranged between 49 and 148 mg/kg, with a single high value of 1214 mg/kg, pH ranged between 7.2 and 8.8.

The previous investigation by PB tested three made ground, two Laminated Clay and three Glacial Clay samples in the area east of the former Circatex factory site (Table 3c). Soluble sulphate concentration on made ground soils ranged between 51 and 301 mg/kg, with pH ranging between 8.2 and 8.6. Soluble sulphate concentration on Laminated Clay and Glacial Clay samples ranged between 92 and 126 mg/kg, with pH ranging between 8.2 and 8.3. Chloride concentration was less than 68 mg/l and NH_4 concentration was less than 6.7 mg/kg in all soil samples tested.

Current investigation

Eleven made ground samples from depths between 0.2m and 3.2m and four Glacial Clay samples taken from depths between 3.2m and 4.2m were scheduled for water soluble sulphate as 2:1 soil/water extract and pH determinations (Table 3d). Magnesium content of the samples were not determined as water soluble content was less than 3000 mg/kg. BRE Special Digest recommends determination of chloride (Cl) and nitrate (NO_3) contents of soil samples for assessment of ground aggressivity in brownfield sites. Chloride and nitrate contents of the soil samples have not been determined in the current investigation as previous results by PB and current groundwater results have not indicated significant concentrations of these compounds. BRE states that a moderate presence of chlorides is not of concern provided the $\text{pH} > 5.5$. Previous investigations and current investigation indicated that pH in groundwater and site soils was in excess of 6.5.

Water soluble sulphate concentrations in the made ground samples ranged from 120 mg/l to 1700 mg/l, with pH ranging from 7.3 to 10.2.

The natural clay samples recorded soluble sulphate concentrations between 88 mg/l and 590 mg/l, with pH values between 7.9 and 8.8.

Eight groundwater samples collected from previous and current installations during a return visit were scheduled for ground aggressivity tests. Sulphate concentrations in the groundwater samples ranged from 340 mg/l to 1400 mg/l, with pH ranging from 7.1 to 7.5. Chloride contents of the groundwater samples were between 51 and 280 mg/l. Ammoniacal nitrogen concentrations determined as part of environmental testing were small (Table 3d).

8.4 Gas Monitoring

Previous Investigations

Gas monitoring undertaken during previous investigations by Dunelm and PB are summarised in Tables 4a and 4b, respectively.

Current Investigation

Gas monitoring was carried out in six combined gas and groundwater standpipes installed at the site (CBH1, CBH2, CBH4, CBH7, CBH8 and CBH10). In addition, six previously installed gas monitoring wells (PBBH1, PBBH2, PBRBH2-19mm, PBRBH2-50mm, PBH5 and PBH6) from the earlier PB investigation were located and monitored. Gas monitoring has been carried out during the site works and on six return visits between 3 October and 24 November 2011, at atmospheric pressures ranging between 992 and 1028 mbars. The monitoring results are summarised in Table 4c.

Recorded methane concentrations were negligible or below detection level (less than 0.4%v/v), except on one occasion in a single location (1.0%v/v at CBH7 on 25.10.11). Steady state carbon dioxide (CO₂) concentrations were slightly elevated, less than 5.0%v/v, except at CBH1 location (up to 5.7% v/v on three occasions, CBH2 (up to 5.5%v/v on two occasions) and PBBH6 on one occasion (5.7% v/v). The steady gas flow rates were generally recorded as zero or negligible (maximum 0.2 l/hr). The recorded oxygen concentrations varied between 1.1% and 21.3 %v/v. Hydrogen sulphide and carbon monoxide concentrations were negligible.

8.5 Groundwater

Groundwater Encountered During Fieldwork

During the current investigation, groundwater strikes were recorded in a number of exploratory holes within the made ground and/or the Glacial Clay at shallow depths between approximately 2.8m and 4.4m bgl. In addition, standing water was recorded in rotary boreholes within the sandstone at a depth varying between 2.2m and 9.1m bgl on completion of drilling, although no record of water strikes are indicated on the exploratory hole logs. A summary of the groundwater strikes recorded during the ground investigation is presented in Table 5a.

Groundwater Monitoring

Groundwater monitoring has been undertaken in six monitoring wells installed in the Circatex site during the current investigation as well as in previous monitoring wells installed by PB (2009). All standpipes during this investigation were installed with response zones within the made ground and or the Glacial Clay, with the exception of the installation in CBH9, where the response zone was within the sandstone. Some of the previous installations were not accessible (locked compound/parked cars) or damaged. Six rounds of groundwater monitoring has been carried out between 3 October and 24 November 2011 following completion of the fieldwork. The results of monitoring are summarised in Table 5b.

Shallow wells with response zones in made ground/glacial clay indicated a groundwater level of between about 2.0m and 4.1m bgl in the Circatex site, and between about 2.1m bgl to 3.9m bgl east of the Circatex site. Of the limited number of standpipes installed within the sandstone strata, CBH9 indicated a piezometric level of about 4.0m bgl (about 6.5m AOD) in the northwestern part of the Circatex site, whereas the piezometer located in PBRBH2 indicated a groundwater level of 2.9m bgl (about 6.3m AOD).

8.6 Infiltration Tests

In order to assess the soakaway potential of site soils, eight infiltration tests were carried out in four window sample holes (WS3, WS8, WS10, WS13) at 1.0m and 2.0m bgl in general accordance with BRE Digest 365. The test sections were all in made ground. As the drawdown was very small (less than 0.3m) after 90 minutes, the tests were terminated. As the 25% effective drawdown depth could not be achieved the infiltration rate could not be determined in accordance with BRE Digest..

Based on these results, the soil infiltration rate of the made ground soils within the 2m depth has been assessed as being less than $<10^{-7}$ m/s.

8.7 Compaction Tests

Ten large bulk samples of made ground collected between 0.2m and 1.0m depth in selected exploratory hole locations (including the inspection pits excavated on the earthbund) were subjected to compaction testing in the laboratory using a 2.5 kg rammer. The test results are summarised in Table 6.

Granular Made Ground

Three samples of 'granular' made ground tested recorded a maximum dry density (MDD) value of between 1.69 and 1.84 Mg/m³ at an optimum moisture content (OMC) of between 13 and 19%. The natural moisture content of the samples ranged between 10 and 15%.

Cohesive Made Ground

Seven samples of 'cohesive' made ground recorded a maximum dry density (MDD) value of between 1.72 and 1.84 Mg/m³ at an optimum moisture content (OMC) of between 11 and 18%. The natural moisture content of the samples ranged between 9 and 16%. The cohesive made ground samples generally comprised slightly sandy gravelly clay with low cobble content.

A detailed assessment of the suitability of excavated materials for reuse is presented in Section 10.

8.8 Calorific Value Tests (Soil Combustibility)

Previous Investigations

Tables 7a and 8b summarize the calorific value tests undertaken by Dunelm (2009) and PB (2009). Four tests undertaken by Dunelm on ash bearing soils indicated a calorific value ranging between 0.53 to 5.34 MJ/kg. The calorific value tests on eight made ground samples recovered from the development site by PB (out of a total of 22 samples tested from the area investigated) indicated a maximum value of 3.93 MJ/kg and an average value of 1.25 MJ/kg.

Current Investigation

Calorific value tests were undertaken on five made ground samples containing some ash. All the samples returned a calorific value of <1.1 MJ/kg. The calorific value test results are presented in Table 7c.

8.9 CBR Test Results

Based on generally granular nature of the near surface soils (made ground), a Panda Probe was used to indirectly determine the CBR values of the ground. The device provides a

continuous plot of in-situ cone resistance for the soil material being investigated in Megapascals. A continuous plot of equivalent CBR value can be calculated from the results using empirical equations, which can then be used for pavement design purposes.

Sixteen Panda Probe Tests were undertaken at the Circatex site using a Panda Probe Version 2 to depths of between 0.1m (CBR11) and 2.2m (CBR4A). The cone resistance values recorded progressively during the course of the testing have been used to determine the equivalent CBR (as well as 'N' value and undrained shear strength) using empirical relationships techniques applicable to the device. Detailed test results are contained in the AEG Factual Report.

The test results have been summarised in Table 8, only the mean CBR values for 0.0m to 0.3m depth and 0.5m to 0.8m depth are reported. The results indicate equivalent CBR values in excess of 8.0 and in many cases in excess of 15 in the made ground soils within 0.8m depth. The made ground at these locations has been described as generally firm in places stiff, sandy gravelly clay with a low cobble content to clayey very gravelly sand with a low cobble content (i.e. comprising a significant proportion of sand and gravel size particles). The made ground was also observed to be generally more 'compact' within the top 0.5-1.0m of the existing ground.

9.0 GEOENVIRONMENTAL ASSESSMENT

9.1 Risk Assessment Framework and Methodology

Reference should be made to the detailed information on the risk assessment framework and methodology presented in Appendix C. The risk assessment undertaken in this study is based on current UK legislative framework.

In order to put the laboratory measured chemical analysis results for the development site into context, the chemical data obtained during the previous Dunelm and PB investigations and the current investigation have been assessed in relation to the current guideline values and other criteria commonly used for the assessment of land contamination, as summarised below.

The test results from Halcrow 2003 investigation (which also included the test results from earlier investigations), and which were re-assessed by Halcrow (2007) for residential land use purposes, were not considered in the current assessment as these tests were undertaken on site soils while the Circatex Factory was still operational.

The test results from Dunelm investigation (2009) for the Circatex site and PB (2009) investigation for the eastern part of the development area are considered to reflect more closely the current land condition at the development site. It should also be noted that the area east of the Circatex factory site is currently occupied by the infrastructure and residential/retail premises.

Land (Soil) Quality

Given the proposed end use (residential), the laboratory analysis results for soil samples have been compared with the following threshold values for the purpose of generic quantitative risk assessment:

- CLEA SGVs for 'residential' land use
- LQM/CIEH GACs for 'residential' land use
- ATRISK^{soil} SSVs for 'residential with homegrown produce' land use

In undertaking the Tier 1/2 assessment for 'residential' land use, reference was initially made to the published CLEA SGVs by the Environment Agency. In the absence of published SGVs, the LQM/CIEH GACs were used. The ATRISK^{soil} SSVs were only utilised for contaminants that do not currently have either a CLEA SGV or LQM/CIEH GAC published.

Controlled Waters

In order to assess the potential risks presented to controlled waters (both groundwater and surface waters) the soil leachate and groundwater concentrations have been compared against the following Level 1 assessment criteria:

- The Water Supply (Water Quality) (Amendment) Regulations 2000, amended 2007 and 2010 (DWS).
- Environment Agency (2002) 'Technical advice to third parties on pollution of controlled waters for part IIA of the EPA 1990', Saltwater Environmental Quality Standards (EQS).

The underlying solid strata (Middle Coal Measures strata) are classified as a 'Secondary A' aquifer. The nearest surface water receptor is the River Tyne (a tidal watercourse), located some 330m northwest of the site.

Based on the above, the Level 1 controlled waters risk assessment has been undertaken using both the Water Supply (Water Quality) (Amended) Regulations 2000 and the EQS (saltwater) threshold values.

9.2 Re-assessment of the Soil and Leachate Test Results of Dunelm 2009 from Former Circatex Factory Area

This section provides a discussion of the chemical test results obtained by Dunelm (2009) at the former Circatex site. Only the chemical test results obtained within the current site boundary (up to thirty one soil test results from the former Circatex factory area) have been considered in this re-assessment.

The results of laboratory chemical analysis carried out by Dunelm are presented in Table 9a, including a comparison of the test results against the adopted 'residential' land use threshold values. In addition, the soil leachate test results provided by Dunelm are summarised in Table 10a, which also indicate the adopted Tier 1 assessment criteria values.

Soil Test Results

Tier 1/2 Assessment for 'Residential' Land Use

The majority of the soil test results returned determinant concentrations below either the laboratory limit of detection or their respective generic assessment criteria for 'residential' land use. However, arsenic, lead mercury and benzo(a)pyrene recorded elevated concentrations as indicated in the following table:

Determinant	Sample Location (Depth, mbgl)	General Strata Descriptions	Recorded elevated concentrations (mg/kg)	Residential Threshold Value (mg/kg)
Arsenic	MBH2 (0.6m)	MG (sandy gravel with ash, clinker, slag)	53 – 111	32 ¹
	TP25 (0.5m)	MG (gravelly sand with ash, tarmac, clinker)		
Lead	MBH2 (0.6m)	MG (sandy gravel with ash, clinker, slag)	407 – 2667	342 ³
	MBH4 (0.5m)	MG (sandy gravel)		
	BH4 (1.0m)	MG (sandy clay / gravel? with clinker)		
	TP8 (0.5)	MG (slightly clayey very gravelly sand with clinker)		
Mercury	BH4 (1.0m)	MG (sandy clay / gravel? with clinker)	1.5	1.0 ¹
Benzo(a)pyrene	TP28 (0.2m)	MG (sandy gravelly clay)	2.30	1.0 ²

Notes: 1 – CLEA SGV; 2 – LQM/CIEH GAC; 3 – ATRISK SSV

These elevated arsenic, lead, mercury and benzo(a)pyrene concentrations are considered to present a potential source of contamination, and are therefore discussed further in Section 9.6, where they have been combined with the test results recorded by the current investigation at the Circatex site for purposes of statistical analysis.

Soil Leachate Test Results

The majority of the determinants tested recorded results that are below either the laboratory detection limits or the relevant assessment criteria (Table 10a). However, copper recorded

elevated concentrations above the corresponding EQS (saltwater) threshold value as indicated in the following table:

Determinant	Range of Elevated Concentration	Threshold value (EQS – saltwater)	Sample Location and Depth (m bgl)
Copper	6 – 36 µg/l	5 µg/l	BH3 (0.2m), TP2 (0.2m), TP19 (0.5m) and TP22 (1.0m)

EQS (saltwater) exceedances for the leachable zinc and mercury concentrations could not be determined with certainty because their laboratory detection limits are above the corresponding EQS (saltwater) threshold values. However, the recorded leachable zinc and mercury concentrations were below the corresponding DWS threshold values.

The elevated leachate copper concentrations are discussed further in Section 9.6 of this report.

9.3 Re-assessment of the Soil and Groundwater Test Results of BP 2009 from the Eastern Part of the Development Area

A total of fifteen soil chemical test results obtained by PB (2009) within the eastern part of the site have been re-assessed using the current 'residential' threshold values.

A summary of the PB soil test results are presented in Table 9b, including a comparison of the test results against the adopted 'residential' land use threshold values. In addition, the groundwater test results provided by PB are summarised in Table 11a, which also indicates the adopted Tier 1 assessment criteria values.

Soil Test Results

Tier 1/2 Assessment for 'Residential' Land Use

Most determinants recorded concentrations below either the laboratory limit of detection or their respective generic assessment criteria for 'residential' land use, with the exception of lead, vanadium, TPH (aromatic C21 – C35) and speciated PAHs, which recorded the following elevated concentrations:

Determinant	Sample Location (Depth, mbgl)	General Strata Descriptions	Recorded elevated concentrations (mg/kg)	Residential Threshold Value (mg/kg)
Lead	TSWS10(2m)	MG (silty slightly sandy clay)	1810	342 ³
Vanadium	TSWS10(2m)		127.4	75 ²
	TSRBH2(0.5m)	MG (gravelly sand with clinker) (Sub-base material)	115.5	
TPH (aromatic C21-C35)	TSBH4A (0.3m)	MG (gravelly sand with slag) (Subbase)	3590	1230 ²
Benzo(a)anthracene	TSBH2(0.25m)	MG (gravelly sand) with inclusions of tarmac, slag in places. (sub-base materials inclusive). Except TSWS10 which is MG (clay)	8.1 – 80.36	5.9 ²
Benzo(a)pyrene	TSBH4A(0.3m)		1.28 – 58.16	1.0 ²
Benzo(b)fluoranthene	TSWS2(0.3m)		7.72 – 77.76	7.0 ²
Benzo(k)fluoranthene	TSWS8(0.3m)		27.51	10 ²
Chrysene	TSWS9(0.3m)		24.22 – 72.31	9.3 ²
Dibenzo(ah)anthracene	TSWS10(2.0m)		1.06 – 10.7	0.9 ²
Indeno(123cd)pyrene			7.3 – 35	4.2 ²

Notes: 2 – LQM/CIEH GAC; 3 – ATRISK SSV

The elevated lead, vanadium, TPH and PAHs concentrations are considered to present a potential source of contamination, and are therefore discussed further in Section 9.6.

Groundwater Test Results

The majority of determinants analysed by BP recorded concentrations below either the adopted threshold criteria and/or the laboratory limits of detection. The contaminants that recorded concentrations above the adopted threshold criteria are summarised in the table below.

Determinant	Range of Elevated Concentration	Threshold value	Groundwater Sample Location
Elevated concentrations above the EQS (saltwater) threshold values			
Phenol	50 – 100 µg/l	30 µg/l	TSBH1, TSBH4, TSBH5
Ammoniacal nitrogen	1 mg/l	0.021 mg/l	TSBH1
Tetrachloroethene	14 – 32 µg/l	10 µg/l	TSRBH2, TSBH4
Elevated concentrations above the DWS threshold values			
Selenium	18 µg/l	10 µg/l	TSRBH2
Phenol	50 – 100 µg/l	0.5 µg/l	TSBH1, TSBH4, TSBH5
PAH (total) ¹	0.199 – 1.468 µg/l	0.1 µg/l	TSBH2, TSBH4
Benzo(a)pyrene	0.017 – 0.475 µg/l	0.01 µg/l	TSBH2, TSBH4, TSBH5
Calcium	515 mg/l	250 mg/l	TSBH1
Magnesium	81 mg/l	50 mg/l	TSBH1
Tetrachloroethene	14 – 32 µg/l	10 µg/l	TSRBH2, TSBH4
<i>Notes:</i>			
<i>1 – Based on the sum of the 4 PAHs [benzo(b) fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene and indeno(1,2,3-cd)pyrene].</i>			

The results of the groundwater analysis are presented in Table 11a and the elevated concentrations discussed further in Section 9.6.

9.4 Discussion of Analytical Test Results (Current Investigation)

This section provides a discussion of the chemical test results obtained by the current investigation undertaken at the development site.

During this current investigation, a total of twenty soil samples (all made ground) recovered from the exploratory holes largely within the former Circatex factory area were subjected to a range of analytical suites as detailed in Section 7.2.

The results of laboratory chemical analysis carried out on soil samples are presented in Table 9c, including a comparison of the test results against the adopted 'residential' land use threshold values. Eight groundwater samples collected from current boreholes as well as some of the previous boreholes undertaken by BP were subjected to laboratory analysis (as detailed in Section 7.2). The groundwater test results and the corresponding Tier 1 assessment criteria values are presented in Table 11b.

Volatile Organic Hydrocarbons (VOCs) Screening

Environmental soil samples recovered during the fieldwork were screened for Volatile Organic Compounds (VOCs) using a hand-held Photo Ionising Detector (PID).

The PID readings were generally negligible with the majority of the readings recording concentrations of zero. The maximum PID reading recorded by the investigation was 1.9ppm, which was recorded in a sample collected at exploratory hole CBH02 (at 1.0m depth bgl). These readings indicate negligible concentration of VOCs at the site. The PID readings are contained in the factual report.

Soil Test Results

Tier 1/2 Assessment for 'Residential' Land Use

The majority of the soil test results returned determinant concentrations below either the laboratory limit of detection or their respective generic assessment criteria for 'residential' land use. However, arsenic, lead, mercury and a number of speciated PAHs recorded the following elevated concentrations:

Determinant	Range of Elevated concentrations (mg/kg)	Residential Threshold Value (mg/kg)	Locations of Exceedances	General Strata
Arsenic	37	32 ¹	CWS5(1.7m)	MG (intermixed sand/clay with moderate chemical odour, ash etc)
Lead	350 – 1900	342 ³	CWS5(1.7m)	
			CWS12(1.0m)	MG (intermixed sand/clay with ash etc)
Mercury	1.6	1.0 ¹	CWS12(1.0m)	
Benzo(a)anthracene	6.5	5.9 ²	CBH2(0.5m)	MG (intermixed sand/clay with ash, slag etc)
Dibenzo(ah)anthracene	3.9	0.9 ²	CWS11(0.5m)	
Indeno(123cd)pyrene	8.8	4.2 ²	CWS11(0.5m)	
Benzo(a)pyrene	1.1 – 8.7	1.0 ²	CBH1, CBH2, CWS(1,7,11),HDP3	MG (intermixed clay/sand/gravel with ash, clinker, slag etc)

Notes: 1 – CLEA SGV; 2 – LQM/CIEH GAC; 3 – ATRISK SSV

These elevated concentrations of arsenic, lead, mercury and PAHs given above are considered to present a potential source of contamination, and are therefore discussed further in Section 9.6, where they have been combined with the test results recorded by Dunelm for statistical analysis purposes.

Groundwater Test Results

The majority of the determinants tested recorded results that are below either the laboratory detection limits or the relevant assessment criteria (Table 11b). However, elevated concentrations were recorded for a number of determinants, as indicated in the following table:

Elevated concentrations within perched shallow groundwater

Determinant	Range of Elevated Concentrations	Threshold value	No. of locations
Elevated concentrations above the EQS (saltwater) threshold values			
zinc	29 µg/l	10 µg/l	1 (CBH4)
nickel	72 µg/l	30 µg/l	1 (CBH4)
sulphate	260 – 1400 mg/l	250 mg/l	All samples
Ammoniacal Nitrogen (as N)	0.07 – 4.2 mg/l	0.021	All samples
Elevated concentrations above the DWS threshold values			
nickel	72 µg/l	50 µg/l	1 (CBH4)
selenium	16 µg/l	10 µg/l	1 (CBH4)
chloride	280 µg/l	10 µg/l	1 (CBH4)
sulphate	260 – 1400 mg/l	250 mg/l	All samples
TPH (Aqueous Phase)	<36 – 140.4 µg/l	10 µg/l	4 (CBH1,2,4 and PBRBH2)

Note: The response zone in CBH4 had inclusions of ash, slag and clinker within the made ground.

Elevated concentrations in groundwater within the sandstone bedrock

Determinant	Range of Elevated Concentrations	Threshold value	No. of locations
Elevated concentrations above the EQS (saltwater) threshold values			
Ammoniacal Nitrogen (as N)	0.12 – 1.9 mg/l	0.021 µg/l	2 (PBRBH2, CBH9)
Sulphate	430 – 610 mg/l	250 mg/l	2 (PBRBH02, CBH9)
Elevated concentrations above the DWS threshold values			
Chloride	260 mg/l	250 mg/l	1 (PBRBH2)
Sulphate	430 – 610 mg/l	250 mg/l	2 (PBRBH2, CBH9)
TPH (Aqueous Phase)	<25.6 – 129 µg/l	10 µg/l	2 (PBRBH2, CBH9)

The elevated concentrations are discussed further in Section 9.6.

9.5 Asbestos Screening

A total of thirty one soil samples, all made ground, (eleven samples by Dunelm, nine samples by PB and eleven samples by current investigation) were subjected to laboratory screening for asbestos fibres. Chrysotile (white asbestos) was recorded in a single sample obtained from the current investigation (CBH07 at 0.5m depth). No asbestos was recorded by the previous Dunelm and PB investigations, and therefore, the recorded asbestos at CBH7 location is considered a 'hotspot'. Further discussion of the recorded asbestos is given in Section 9.6.

9.6 Risk Assessment Discussion and Summary

Previously, the assessment of test results on soil samples by Halcrow while the Circatex Factory was operational, had indicated elevated concentrations heavy metals and metalloids (arsenic, lead, nickel, copper, boron, zinc), organics (polyaromatic hydrocarbons, some volatile organic compounds and semi volatile compounds), and inorganics (sulphate, alkaline pH and slightly acidic pH beneath wet areas). However, the elevated arsenic, lead and nickel concentrations were mainly detected beneath the main car park site (outside the current development area). Elsewhere, the elevated metal concentrations were limited and not considered to be statistically significant. However, elevated ammonia was encountered in half of the samples tested. Halcrow had concluded that the ground was not significantly impacted by spillages beneath the factory. However, the potential for future leakages from the service ducts in the factory remained high due to the aggressive nature of the chemicals present in the ducts (acidic pH, sulphates, ammonia, etc).

Despite the contaminant concentrations and spillages recorded at the former factory site by Halcrow, the current investigation has recorded a limited number of elevated concentrations of metals and PAHs and a localised 'hotspot' of asbestos. (Note: The elevated soil concentrations recorded by Dunelm in this area also comprised limited metals and benzo(a)pyrene (PAH)). As mentioned above, Halcrow also commented that there was a high potential for future leakages from the service ducts in the factory. However, the current investigation has recorded negligible sulphate contents (0.05 to 0.2 % of soil mass), with alkaline pH values ranging between 8.4 and 11.8. No acidic pH values have been recorded by the current test results. This, therefore, suggests that no significant contamination took place at the former factory area since the Halcrow investigation was undertaken.

As reported in previous sections, a number of elevated determinant concentrations have been recorded at the site when the soil test results from Dunelm, PB and current investigations have been assessed using current threshold values for residential land use. To further evaluate the potential risk presented by the identified elevated concentrations, statistical analyses of the soil concentrations recorded have been undertaken as discussed below. The statistical

analyses have been considered for two separate areas of the site (i.e., the former Circatex factory area and the area to the east of the former Circatex factory).

Statistical Analysis of Elevated Contaminants at Circatex Site

To determine the suitability of carrying out further assessment of the arsenic, lead, mercury and PAHs concentrations by employing statistical analysis (CL:AIRE/CIEH, May 2008), a review of the nature of the soil samples tested for the elevated determinants was carried out in order to determine averaging areas for the purposes of statistical analysis. Due to the heterogeneous nature of the underlying made ground at the site, the made ground has been considered to represent the same 'averaging area' for the purposes of statistical analysis.

All the "non-detects" were utilised in the statistical analysis by assigning the corresponding laboratory detection limit for each "non-detect". The use of the relevant LOD for "non-detects" is considered appropriately conservative.

The probability plot was carried out to determine the normality of the data distribution for arsenic, lead and mercury, while the normality of the data distributing for PAHs [benzo(a)anthracene, benzo(a)pyrene, dibenzo(ah)anthracene and indeno(123cd)pyrene] were undertaken using the Shapiro-Wilk's normality test. (NB: Shapiro Wilk's normality test is limited to a maximum of 50 datasets, while arsenic, lead and mercury had 51 datasets). The normality tests indicated that the recorded test results are not normally distributed. Following the normality test, a statistical outlier test was undertaken using Grubbs' test working with log-transformed values. The statistical outlier test indicates that the maximum recorded concentrations of the above determinants are inliers, and therefore do not represent 'hotspot' concentrations at the site.

Based upon the normality and outlier tests, the 95% Upper Confidence Limit (US₉₅) of the above determinants were calculated using one-sided Chebyshev Theorem (for non-normally distributed dataset). The statistical analysis have recorded the following (US₉₅ values):

Determinant	Calculated US ₉₅ Value (mg/kg)	Residential Threshold Value (mg/kg)	Remarks
Arsenic	23.79	32 ¹	US ₉₅ is below the threshold value
Lead	484.13	342 ³	US₉₅ exceeds the threshold value
Mercury	0.59	1.0 ¹	US ₉₅ is below the threshold value
Benzo(a)anthracene	2.57	5.9 ²	US ₉₅ is below the threshold value
Dibenzo(ah)anthracene	1.17	0.9 ²	US₉₅ exceeds the threshold value
Indeno(123cd)pyrene	2.86	4.2 ²	US ₉₅ is below the threshold value
Benzo(a)pyrene	2.17	1.0 ²	US₉₅ exceeds the threshold value

Notes: 1 – CLEA SGV; 2 – LQM/CIEH GAC; 3 – ATRISK SSV

The US₉₅ values for lead, dibenzo(ah)anthracene, and benzo(a)pyrene exceed their corresponding 'residential' threshold values. Given the above, the identified concentrations of arsenic, mercury, benzo(a)anthracene and indeno(123cd)pyrene are not considered to present a significant risk to human health, and are therefore not discussed further. However, the risk to human health from the identified lead, dibenzo(ah)anthracene and benzo(a)pyrene concentrations within the made ground at the site have been assessed as moderate (for both future site users and construction workers).

An outline remediation strategy for the site is given in Section 9.9.

Statistical Analysis of Elevated Contaminants in the Eastern Site Area

Consideration for the need to undertake a statistical analysis of the PB test results obtained to the east of the former Circatex factory building (together with a single test result from the

current investigation that was obtained from this area at CWS9 location) was made. Based on the soil samples analysed, the following averaging areas were identified for the purpose of statistical analysis:

- Granular made ground (subbase/possible sub-base materials) – 6 samples from PB investigation.
- Granular made ground (not subbase) – 5 samples from PB investigation and 1 sample from the current investigation.
- Cohesive made ground – 1 sample from PB investigation.
- Natural clay – 2 samples from PB investigation.
- In addition, 1 sample from PB investigation was collected at the strata boundary between cohesive made ground (clay) and granular made ground (sand).

Based on the above, it was considered that the datasets were insufficient to allow for a robust statistical analysis for each of the above averaging areas. Consequently, the risk to human health from the elevated concentrations of lead, vanadium, TPH and PAHs recorded in this area by PB is considered as moderate. An outline remediation strategy for the site is given in Section 9.9.

Risk Assessment for Asbestos ‘Hotspot’

The current investigation has recorded chrysotile asbestos within the made ground at CBH7 (0.5m depth). The risk to human health from the identified single asbestos ‘hotspot’ is considered **moderate**. Consequently, remedial measures will be required to deal with this asbestos ‘hotspot’.

Assessment of Risk through New Water Supply Pipes

The risk to human health resulting from the attack and permeation of new water supply pipes from identified contaminants is considered **moderate**. The identified potential human health risk results from the recorded PAH (total) and petroleum hydrocarbons (TPH) concentrations within the shallow made ground, which are above the Northumbrian Water trigger levels for pipe material selection. The risk from these contaminants (through the permeation of buried pipes) can be minimised by selecting an appropriate material for new water supply pipes.

It is recommended that all chemical tests results from previous BP and Dunelm investigations together with those from the current investigation are forwarded to Northumbrian Water to determine their requirement for upgraded water supply pipes/services protection.

In addition, the Water Regulations Advisory Scheme (WRAS) provides advice on the pipe materials suitable for use with different contaminants (WRAS, October 2002 – ‘*The Selection of Materials for Water Supply Pipes to be Laid in Contaminated Land*’). Therefore, the recorded soil concentrations have also been compared to the WRAS threshold levels to determine any exceedances of WRAS values for the determinants not covered by NWL guidelines. This comparison indicates that the recorded concentrations of pH, arsenic, lead, mercury and TPH exceed the WRAS threshold levels for supply pipe material selection. It is recommended that WRAS guideline values are considered for determinants not covered by NWL guidelines, to determine any requirements for upgraded water supply pipes/services protection.

Assessment of Risk from Ground/Soil Gas

The risk posed to human health (site users) from ground gases, due to the accumulation of toxic/asphyxiant and explosive gases in confined spaces is assessed as **negligible to low** based on the monitoring results of previous and current investigations (as discussed in Section 10).

Controlled Waters Risk Assessment

Previous investigation by Halcrow (2003) on seven groundwater samples taken from shallow installations had indicated elevated concentrations of some metals (arsenic, boron, cadmium, chromium, copper, nickel, selenium) in excess of the Tier 1 assessment criteria. Ammoniacal nitrogen was present at high concentrations. Leachate test results had indicated that leachable concentrations were not particularly high and with the exception of copper, the made ground did not appear to be a significant source of metals. Hydrocarbons were not present at significant leachable concentrations within the made ground. Halcrow had concluded that groundwater quality beneath the site was poor, with a number of metals and also ammoniacal nitrogen present in excess of EQS values. Halcrow also recommended further groundwater sampling/testing to investigate if groundwater quality at the site had changed over time.

The controlled waters risk assessment previously undertaken by PB indicated elevated dissolved phase concentrations of chloride, magnesium, benzo(a)pyrene, tetrachloroethane, ammoniacal nitrogen, fluoranthene and dibutyl tin. Despite these concentrations, PB stated that there was limited evidence of any onsite sources of contamination. PB considered that these concentrations were indicative of the of the regional groundwater quality and might have been arisen due to the historic industry and/or Coal Measures in the general area. Due to the isolated exceedances encountered in the groundwater PB recommended additional confirmatory monitoring at the site and further sampling to accurately assess the tetrachloroethane and ammoniacal nitrogen. A re-assessment of the PB results (Section 9.3) indicates elevated dissolved phase concentrations of phenol (3 locations), ammoniacal nitrogen (1 location), tetrachloroethene (2 locations), selenium (1 location), PAHs (3 locations), calcium (1 location) and magnesium (1 location). The re-assessment has indicated that the dissolved phase concentrations of dibutyltin recorded at the site by PB were all below the laboratory detection limit (<0.02 µg/l).

The current investigation has recorded elevated groundwater concentrations of zinc, nickel, sulphate and TPH, which were not recorded as elevated by PB. On the other hand, the current investigation has recorded negligible concentrations of phenol, PAHs, tetrachloroethene that were recorded by PB at elevated concentrations. Importantly, the current investigation has recorded groundwater concentrations of sulphate and ammoniacal nitrogen in all eight groundwater samples tested. Elevated dissolved TPH concentrations were also recorded in six samples, which include two groundwater samples collected within the sandstone bedrock. This investigation has also recorded elevated dissolved phase concentration of ammoniacal nitrogen, sulphate and chloride in groundwater within the underlying rock strata. Although PB recorded elevated concentrations of selenium and phenol in groundwater within the sandstone rock, no elevated phenol or selenium groundwater concentrations were recorded in the sandstone rock by this investigation.

Negligible dibutyltin concentrations (<1.0 µg/l) were recorded in all groundwater samples analysed by Cundall. This correlates well with the negligible dibutyltin groundwater concentrations (<0.02 µg/l) recorded by PB at the site (*Note: PB recorded a maximum dibutyltin concentration of 0.56 µg/l in a sample collected from River Tyne*). In addition, all groundwater samples analysed by Cundall recorded negligible concentrations of tetrachloroethene and soluble volatile organic compounds (SVOCs). It can therefore be concluded that no significant dibutyltin, tetrachloroethene and SVOCs contamination of the site resulted from the operations of the former factory at the site.

Similar maximum concentrations of selenium and ammoniacal nitrogen were recorded by both PB and Cundall, that is, 18 µg/l (PB) and 16 µg/l (Cundall) for selenium and 1.0 mg/l (PB) and 4.3 mg/l (Cundall).

Based on the groundwater concentrations discussed above, it is considered that no significant changes in the groundwater quality at the site has occurred over time, in relation to the operations of the former factory at the site.

Summary

Elevated groundwater concentrations were recorded by the PB investigation for phenol, ammoniacal nitrogen, selenium, PAHs, calcium, magnesium and tetrachloroethene. The current investigation has also recorded elevated concentrations of metals (zinc, nickel and selenium), sulphate, chloride, ammoniacal nitrogen and dissolved phase TPHs within the shallow perched groundwater. In addition, groundwater samples collected from two installations sunk into the underlying sandstone bedrock recorded elevated concentrations of chloride, sulphate, ammoniacal nitrogen and dissolved phase TPHs. However, these elevated leachable and dissolved phase concentrations are not considered to represent a significant risk to controlled waters due to the following:

- Although the site is underlain by 'Secondary A' aquifers, there are no groundwater abstraction points or groundwater Source Protection Zones within 1km of the site.
- No surface water abstraction points are recorded within 1km of the site.
- The DWS threshold values used in the risk assessment are considered extremely conservative as they represent concentrations at consumers' taps.
- The quality of groundwater in this area is highly likely to have been negatively impacted by the historic industry and/or coal mine workings in this area.
- The nearest surface water feature (the River Tyne) is located over 300m away from the site.
- Following site development, areas that will be occupied by building footprint and hardstanding areas will negate any downward infiltration in such areas.
- No evidence of significant site contamination has been identified to have resulted from the previous factory operations at the site.

Consequently, it is considered that the risk to controlled waters due to the recorded elevated leachable and dissolved phase concentrations is **low**. The leachate and dissolved phase test results are therefore not discussed further.

Built Environment

It is considered that the risk to built environment / structures arising from compounds aggressive to buried concrete is **low to moderate** based upon the ground aggressivity test results as discussed in Section 10 of this report.

9.7 Conceptual Site Model

A semi-quantitative risk assessment (Tier 1/2) approach has been undertaken for the site, based on the available site information. This is based upon the “source – pathway – receptor” conceptual risk model in accordance with current UK guidelines and establishes the likelihood and severity of potentially active pollutant linkages at the subject site.

The conceptual site model presented below is based on the site’s proposed ‘residential’ end use. A diagrammatic representation of the Conceptual Site Model (CSM) is presented as Figure 11. The risks identified at the site as a result of the proposed development (**assuming no remedial action is implemented**) are summarised as follows:

Contaminant Source	Pathway	Receptor	Consequence of Pollutant Linkage	Likelihood of Pollutant Linkage	Overall Risk
Elevated concentrations of lead, vanadium, TPH and PAHs within shallow made ground at the site.	1 Dermal contact	Site Users	M / H	L	M
	2 Dermal contact	Construction Workers	M / H	M	M
	3 Accidental ingestion	Site Users	M / H	L	M
	4 Accidental Ingestion	Construction Workers	M / H	M	M
	5 Inhalation of fugitive dust and volatile vapours	Site Users / Adjacent Site users	M / H	L	L
	6 Inhalation of fugitive dust and volatile vapours	Construction Workers	M / H	M	M
Recorded concentrations of pH, arsenic, lead, mercury, PAH and TPH above trigger levels	7 Permeation of new water supply pipes	Site users	M / H	L	M
Identified localised asbestos ‘hotspot’ (Circatex site) and possible asbestos (eastern part of the site)	8 Uptake of asbestos fibres	Site Users / Construction Workers / Adjacent Site users	H	M (Circatex site) M / H (eastern part of the site)	M (Circatex site) H (eastern part of the site)
Recorded leachable copper concentrations	9 Leaching of mobile contaminants	Controlled Waters (River Tyne, some 330m northwest)	M	L	L
	10 Leaching of mobile contaminants	Controlled Waters (the underlying ‘Secondary A’ aquifer)	M	L	L
Dissolved phase contaminant concentrations in groundwater	11 Migration of groundwater through permeable strata	Controlled Waters (River Tyne, some 330m northwest)	M	L	L
	12 Migration of groundwater through permeable strata	Controlled Waters (the underlying ‘Secondary A’ aquifer)	M	L	L
Compounds aggressive to buried concrete	13 Direct attack of buried structures	Built environment / Structures	M	M	M
Recorded concentrations of ground gas	14. Accumulation in confined spaces and/or explosion	Construction workers / Site users / Built environment	H	L	N to L

Notes: H (High), M (Moderate) L (Low), N (Negligible)

9.8 Waste Acceptance Criteria and Soil Disposal

Six made ground samples, from a depth up to 1m bgl, were scheduled for Waste Acceptance Criteria (WAC) testing during the current investigation. The WAC test results are summarised in Table 12.

The majority of the analysis results meet the inert waste criteria with the exception of mineral oil and antimony. Mineral oil (C10-C40) recorded a concentration 3100 mg/kg (CWS11 at 0.5m depth), which is above the inert waste acceptance criteria of 500 mg/kg. Another sample (CWS6 at 1.0m depth) recorded antimony concentration of 0.067 mg/kg, which is marginally above the inert waste acceptance criteria of 0.06 mg/kg.

The WAC test results indicate that the majority of the made ground materials from shallow depth would classify as 'inert' waste for purposes of offsite disposal. However, there are pockets/zones of ash rich materials, especially at a depth of over 1.0m bgl, which are likely to classify as 'stable non reactive hazardous waste'. It is recommended that should any off site disposals be required, the made materials should be carefully segregated, stockpiled and subjected to WAC analysis to determine their actual waste classification prior to disposal.

9.9 Outline Remediation Strategy

Based on the risk assessment carried out at the site, it is considered that site remediation will be required to render the site suitable for 'residential' land use.

The risk assessment has revealed the following elevated determinant concentrations within the made ground at the site:

Former Circatex Factory Area

- Lead, dibenzo(ah)anthracene and benzo(a)pyrene
- Asbestos 'hotspot'

Area to the East of the Former Circatex Factory

- Lead, vanadium, TPH (aromatic C21-C35) and PAHs [benzo(a)anthracene, benzo(a)pyrene, dibenzo(ah)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene and indeno(123cd)pyrene].

In addition, the made ground strata at the site have recorded inclusions of ash, slag, clinker, concrete etc., which will be unsuitable for use in the near surface soils in soft landscaped areas / garden areas.

Based on the above, the following outline strategy for preparatory and remedial works is proposed in order to make the site suitable for a 'residential' development.

General Principles and Preparatory Works

1. Prior to any remedial works being carried out, all site workers should be briefed in the form of a toolbox talk on good environmental working practice at the site, Health and Safety protocols and the procedures to be followed if previously unidentified contamination is encountered during the works.
2. If present, stripping of surface vegetation and clearing of surface debris and litter in areas undergoing development should be undertaken prior to undertaking and excavations / earthworks.

3. If present, topsoil should be carefully stripped and stockpiled separately from the made ground (if required to be reused at the site). (very limited topsoil exists at the site)
4. An asbestos survey should be undertaken of the existing premises along New George Street and Frederick Street before demolition in this area.

Mitigation of the Identified Contamination at the Site

5. The made ground material at the site has recorded elevated determinant concentrations and also comprise inclusions of other materials that are unsuitable for use at ground surface within the soft landscaping / garden areas. In order to break the identified risks to human health and ecological receptors/new planting, a 'clean' cover system should be constructed in all soft landscaping and garden areas. It is anticipated that the clean cover system will comprise chemically clean subsoil and topsoil of a combined thickness of about 600mm, although the actual thickness of the clean cover system will depend on the requirements of the Local Planning Authority (LPA). A geotextile separator is also recommended at the base of the clean cover system to separate the cover system from the underlying in-situ made ground soils.
6. Any imported or site won soils that are intended for use within the clean cover system must be tested for a range of contaminants and at a frequency agreed with the LPA in order to ensure their chemical suitability for use.
7. Where excavated, the granular made ground at the site may be reused as fill and or subbase material for car parking / access roads. However, this will be subject to the materials being geotechnically suitable.

Testing of Site won and/or Imported Soil/Fill Materials

8. Any topsoil, subsoil or fill (unless from a natural rock source) materials imported to site as part of the development should be sampled and tested for a range of commonly occurring contaminants at a UKAS and MCERTS accredited laboratory to ensure their chemical suitability for use. This testing will not detract from any other testing required to prove the materials suitability i.e. earthworks classification testing, testing in accordance with BS 3882:2007 for topsoil etc.
9. Any site won material (topsoil, subsoil or fill materials should also be sampled and tested for a range of commonly occurring contaminants at a UKAS and MCERTS accredited laboratory to ensure their chemical suitability for reuse on site.

Dealing with the Identified Asbestos 'Hotspot'

10. During the site clearance/strip, the shallow made ground with the identified asbestos 'hotspot' (CBH07 at 0.5m depth bgl) should be carefully excavated, segregated and stockpiled separately from other arisings. The asbestos containing made ground should then be covered immediately to prevent mobilisation of fibres. Subsequently, the asbestos containing made ground should be disposed offsite to a suitably licensed waste disposal facility capable of receiving this kind of waste.
11. Alternatively, 'cut and cover' excavation techniques may be used to bury the asbestos containing made ground beneath building footprint/hardstanding areas well below any

finished site or service levels. Subsequently, a site asbestos management plan will be required for the buried made ground containing asbestos.

12. It is anticipated that an excavation measuring approximately 1m by 1m and extended to about 1m depth bgl will be sufficient in isolating and removing the asbestos 'hotspot'. However, further validation testing (for asbestos) of the excavated area may be required by the LPA.

Soil Handling, Off Site Disposals, Waste Management & Environmental Policies

13. During construction, the potential for cross contamination of soils/materials must be controlled. Even slight cross contamination could lead to significant impact and further remediation being required and/or an elevation in the waste classification of the cross contaminated material if offsite disposal is required. Therefore, careful segregation of differing soils should be ensured to prevent cross contamination. In addition, all arisings generated during the construction works that will require disposal from the site should be carefully segregated and stockpiled separately.
14. All stockpiles of material requiring disposal from site should be sampled and subjected to WAC testing to determine their waste classification under the Landfill Directive Waste Acceptance Criteria.
15. Any material exported from site to landfill shall be hauled by a registered waste carrier in accordance with all current regulations. A transfer note shall be completed, signed and retained by all parties involved. The transfer note shall state the volume of waste, the nature of the material and statement of its chemical composition. The waste transfer notes shall be kept by the Main Contractor and copies made available for inclusion in the 'Verification Report'.
16. Any groundwater encountered during construction that is observed to be impacted by contaminants should be contained and either disposed of off-site or treated and subsequently discharged (via the relevant consents).

New Water Supply Pipes

17. It is recommended that all chemical test results from the previous and current investigations undertaken at the site are forwarded to Northumbria Water to determine their requirements for the protection/upgrade of new water supplies.

Dealing with Previously Unidentified Contamination

18. Previously unidentified contamination arising during the site development is always a possibility. In recognition of this, the Contractor has a responsibility to notify the Resident Engineer / Contract Administrator should any unusual ground conditions or previously unidentified contamination (e.g. evidence of visual or olfactory contamination) be revealed during the redevelopment of the site. If such conditions are encountered, work in the area of the contamination should stop until expert advice has been sought and appropriate action (agreed with the Local Planning Authority) taken.
19. Based upon the findings of the ground investigations undertaken at the site, the likelihood of asbestos fibres being present elsewhere within the soil matrix is low.

However, if it is suspected that asbestos containing materials (ACMs) are present, then any suspected asbestos contaminated material should be covered immediately to prevent mobilisation of fibres and access will be prohibited until the material and the associated risks are assessed by a suitably qualified person.

In addition, a **detailed remediation and verification strategy** may be required by the Local Planning Authority to be produced for the site, based on the outline remediation strategy given above. If required, the detailed strategy should be submitted to the regulators/Local Planning Authority for approval before commencement of the works on site.

A '**Verification Report**' will be required to provide confirmation that the remedial works have been carried out in accordance with the agreed Remediation Strategy.

10.0 GEOTECHNICAL ASSESSMENT AND ENGINEERING CONSIDERATIONS

10.1 Introduction

The following sections provide a geotechnical assessment of the ground conditions at the site for the design of foundations and associated infrastructure for a residential development, based on the findings of the current and previous ground investigations and other data reviewed in this report. The scheme details and layout have not yet been finalised and it is understood that a number of scheme layouts are being considered by the three bidders.

The eastern part of the development site is currently occupied by the existing residential/retail properties, many of which are still occupied, together with the associated infrastructure still intact. Current investigation was limited to the hardstanding/car park area immediately east of the former Circatex site and the residential/retail due to access restrictions imposed by the Council in the eastern part of the site. However, a reasonable degree of ground investigation was undertaken by Parsons Brinckerhoff in accessible parts of the eastern area and the results of this investigation together with the current investigation have been used in assessing the ground conditions (and land contamination as described in Section 9) in this part of the development site. It is recommended that additional investigation should be undertaken in this part of the site following demolition of the properties. It is however considered that the ground conditions are not likely to be significantly different than assessed in this report based on currently available data.

From the conceptual layout plans provided from each of the three bidders, the proposed residential development will comprise conventional low rise housing with private gardens together with access roads, car parking and landscaped areas. It is understood that the current road layout in the eastern part of the site will be largely retained.

It is recommended that detailed appropriate geotechnical calculations are carried out when the foundation details are finalised.

10.2 Ground Model

A number of N-S and E-W geotechnical cross sections which illustrate the ground conditions at various locations throughout the development area are given in Figures 4a to 4f. Figure 5 shows the made ground thickness encountered at each exploratory hole location together with approximate made ground thickness contours (drawn only at 1m, 2.5m and 4m bgl levels) and Figure 6 shows the depth contours for rockhead.

In summary, the site is underlain by made ground, between about 1.0m and 4.5m thick. In addition, an earthbund, between about 0.5 and 1.0m high, comprising made ground, is present around the former Circatex site. Thinnest made ground, between 1.0 and 2.5m, is present in the northernmost as well as locally in the western parts of the Circatex site. In the central south area to the east of the Circatex site, made ground is anticipated to be between 2.0m and 2.5m thick based on a limited number of PB (2009) exploratory holes in this area. Elsewhere, the made ground is between 2.5m and 4m thick and locally up to 4.5m thick as illustrated in Figure 5.

The made ground at the site is very heterogeneous varying in composition from locally desiccated, slightly sandy gravelly clay with low cobble content to silty very gravelly sand with some cobbles. The cobbles and gravels generally comprise brick, concrete, sandstone,

occasional flint, clinker, slag, coal, rare metals, plastic, pottery, rebar, glass. Locally, ash rich pockets/zones and ballastlike materials were also encountered. The N values recorded within this stratum were generally between 4 and 12, indicating generally loose (if granular) or soft to firm (if cohesive) made ground, reflecting generally poor degree of 'compaction', except perhaps in the top 0.5m -1.0 m or so where it visually appeared to be more 'compact'.

At the base of made ground, a relict topsoil layer, between about 0.1m and 0.3m thick and generally described as soft organic slightly gravelly sandy silty clay, was encountered in a number of exploratory holes at the Circatex site (N values between 3 and 8).

Made ground/relict topsoil is underlain by glacial strata including Laminated Clay and Undifferentiated Glacial Clay. However, it was not possible to delineate areas of the Laminated Clay based on the exploratory hole logs. The Laminated Clay was present locally in some exploratory holes, generally overlying undifferentiated Glacial Clay. The topmost 0.4 to 1.5m of both the Laminated Clay and the Undifferentiated Glacial Clay is generally weathered and has a lower strength as indicated by lower N values and laboratory strength tests (Tables 1a to 1d). The total thickness of the glacial deposits is variable, between about 1m and 9m thick, being thinnest in the northeastern part of the site where the rockhead is the shallowest.

The Glacial Clay is underlain by the Coal Measures rocks, generally sandstones with occasional siltstones and mudstones. The uppermost 0.1 to 1.0m of the sandstones appear to be partially weathered to extremely weak to very weak rock transgressing into generally weak to medium strong rock at depth, but also containing zones of more weathered extremely weak to very weak rock (recovered as non intact).

The bedrock surface appears to dip generally towards the southwest from about 7m AOD in the northeast of the site to about -2m AOD in the southwest and west (Figure 6).

No coal seams were encountered to 18.9m bgl (-8.0m AOD) in the current investigation and to -13.3m AOD during the previous PB investigation. A detailed assessment of the coal seams and mineworkings underlying the site at shallow depth is presented in Section 10.3 below.

10.3 Mineworkings Assessment

The mining report included in Dunelm (2009) report stated that the site is underlain by workings in five coal seams, the shallowest being the High Main Seam at a depth of about 192m below ground level.

An examination of the published 1:10,000 scale geological map indicated that the site may also be underlain by a number of thin seams as well as coal seams of workable thickness (up to 1m thick), which are the Top and Bottom Ryhope Five Quarter, Ryhope Little and Moorland seams, before the High Main is reached.

It is a common practice to adopt the criteria of a competent rock cover / seam or void thickness ratio of 8:1 to 10:1, or a minimum depth of cover of 30m (depending on the nature of the superfcials above) in deciding to carry out the stabilisation of old mineworkings underneath the footprints of residential or commercial properties based on CIRIA Special Publication 32 (1984) "*Construction over Abandoned Mineworkings*" and other published studies / technical papers.

Much less stringent criteria are typically adopted for roads and hardstanding, and these usually vary from local authority to local authority. However, the presence of double worked seams within close vicinity of each other, the type of rock, the type of superfcials, age of workings, etc, also affect the depth of stabilisation, which is usually restricted to 30 to 40m below ground level. However, these criteria only apply to shallow foundations and low rise

structures and is primarily aimed at minimising the effects of a potential future collapse in the mineworkings reaching the ground surface.

In the case of piled foundations which are taken to some distance into the substrata underlain by old mineworkings, even small movements at depth can affect the capacity of the pile (by mobilising skin friction or end bearing or both) resulting in excessive settlement of the piled foundation. Therefore, special measures will need to be undertaken to minimise the risk of such failures. These include taking piles through the mineworkings onto more competent strata or carrying out high strength grouting (in line with design requirements) at pile locations, either in combination with general grouting at close spacing or on its own depending on the ground conditions and structure details.

BGS BH ref NZ 36 NE71, about 495m SW of the site (also known as Templeton Old Pit or Chapter Main) indicates the presence of Bottom Hebburn seam (0.9m thick) at about 24m bgl, Usworth at 42m bgl (about 0.55m), Bottom Ryhope seam (0.55m) at 167m bgl and High Main Seam (1.95m) at 228.5m bgl. Based on this shaft record, the thickness of rock between Usworth and Ryhope (workable seam) seam is about 125m. Bottom Hebburn and Usworth seams subcrop to the south of the site and do not underlie the site area. It is therefore considered that the Ryhope seam (having a workable thickness, but no records of mineworkings) is at over 50m depth bgl at the site.

The rotary boreholes drilled by PB to a depth of -13.3m AOD to the east of Circatex site did not encounter any coal seams, with the rockhead encountered at a depth of +0.5m AOD to +1.3m AOD, i.e. a rock/seam ratio of over 14 times, based on a maximum recorded seam thickness of about 1m.

It is concluded that the site is not underlain by mineworkings at a depth shallow enough to affect the foundation design for the proposed structures at this site. Consequently, it is considered that no special remedial measures will be required to stabilise any potential mineworkings beneath the site for foundation purposes, and that the risk to the proposed development from historic mineworkings is negligible.

10.4 Groundwater

Groundwater strikes (including standing water observed in some trial trenches) were recorded in a number of exploratory holes during the current investigation within the made ground at shallow depths between approximately 2.8m and 4.4m bgl (Table 5a). Standing water was recorded in rotary boreholes within the sandstone strata on completion of drilling, although no records of water strikes are indicated on borehole logs.

Based on the monitoring visits carried out on six occasions in six current and six previously installed monitoring wells across the site, a shallow groundwater table is present within the made ground (possibly perched above the Glacial Clay). Groundwater was monitored to be at a depth between about 2.0m and 3.9m bgl at the general site (Table 5b). The shallow groundwater table appears to dip towards the south (from about 8.0m AOD in the north at CBH10 location to about 4m AOD in the south at CBH1 location).

Standing water levels recorded in the rotary holes and the monitoring to date of a limited number of standpipes with response zones within the rock strata indicated the presence a deeper groundwater table within the sandstones (possibly confined under the Glacial Clay). The standpipe in CBH9 (with response zone in sandstone) indicated a piezometric level of about 4.0m bgl (about 6.5m AOD) in the northwestern part of the Circatex site, whereas the piezometer located in the sandstone in PBRBH2 indicated a similar piezometric level of 2.9m bgl (about 6.3m AOD).

10.5 Foundation Design Considerations

Only preliminary guidance is provided in this report on foundation solutions based on the findings of the current and previous investigations as discussed previously. Proposed finished floor/site levels are not known and different housing layouts are being considered by the bidders. It is anticipated that the residential development will largely be conventional low rise housing with private gardens.

Made ground would not generally be suitable as a bearing stratum and foundations should be constructed to bear on the competent natural strata having adequate bearing capacity for the proposed building loads. It is considered that in areas where made ground is thicker than about 2.5m, ground improvement or piled foundations would be more economical foundation solutions, although mass concrete trenchfill to deeper depths of say 3.5m, can also be considered. However, the presence of a shallow groundwater table (Section 10.4) and the potential instability of trench excavations should be taken into account if the foundations are to be taken beyond about 2.5m bgl.

Approximate made ground thickness contours, drawn at 1m, 2.5m and 4m intervals, are shown in Figure 5. Based on the findings of the investigation, it is considered that shallow foundations are feasible in the northern part of the site. The glacial clay soils immediately underlying the made ground are described as low to medium strength, soft to firm and firm and are generally weathered.

The undrained strength, generally derived from N values, in the uppermost weathered clay is in the range of 35 to 50 kPa (Figure 9). These weathered glacial clay soils also have a medium compressibility (Table 1d). A characteristic undrained strength of 40 kPa is recommended for the uppermost weathered glacial clays in this part of the site to around 3m bgl. Similarly, a characteristic coefficient of compressibility of 0.20 m²/MN is recommended for this zone. The strength of the clay generally increases with depth from about 3m bgl as shown in Figure 9.

There are smaller areas within the western central area of the Circatex site where the made ground is in the region of 2.0 to 2.5m thick. Similarly, shallow foundations can be considered in these areas, but it may be more economical to use ground improvement or piled foundations. East of the Circatex site, there is also an area where the made ground is assessed to be between 2.0 and 2.5m thick. However, the available data for this area is limited, generally based on the exploratory holes undertaken by PB in 2009. It is recommended that further investigation is undertaken following demolition of the premises in order to confirm the made ground thickness more accurately in this area of the development site.

For the remaining parts of the site, ground improvement in the form of vibrostone columns or vibroconcrete columns or alternatively piled foundations should be considered. Although vibrostone columns are considered to be suitable, taken onto a suitable depth within the natural strata, the local presence of thin, generally less than 0.3m thick, relict topsoil zones, which are generally described as soft to firm or loose (with N values generally recorded between 3 and 8), may be considered unsuitable for this technique by the specialist ground improvement companies. Therefore, specialist contractors should be consulted on the viability of stone column improvement throughout the development site.

It is assumed that all foundations will be grubbed up and obstructions (cellars, etc) removed in the eastern part of the development area following demolition of the premises and the resultant voids will be backfilled and compacted to a suitable degree before vibrostone column construction.

Many types of proprietary pile systems are available for low rise housing developments and specialist piling contractors should be consulted for the design of most economic piled

foundations. Consideration should be given to designing the piles in accordance with 'Efficient design of piled foundations for low-rise housing' NHBC (2010).

In accordance with NHBC guidelines, suspended floor slabs are recommended where made ground exceeds 0.6m in thickness. However, consideration should be given to a ground bearing slab if ground improvement is adopted for the foundations, subject to additional costs involved for this solution. Alternative solution of removing made ground from underneath building footprint and replacing it with engineered granular fill is not considered to be a viable solution due to high costs related to off site disposal of made ground and related earthworks.

10.6 Soil Shrinkability

The combination of shrinkable soils and trees represents a hazard due to volume changes resulting in ground movement. In order to minimise the potential risk, the sufficient design depth of foundations has to be assessed in accordance with NHBC Standards – Chapter 4.2: Building Near Trees.

The individual plasticity index values obtained on the Glacial Clay strata (including weathered and fresh Laminated and Undifferentiated Clay) during the previous and current investigations ranged widely between 12 and 54. The mean values determined by each investigation also varied largely between 19 and 44 (Tables 1a to 1d). These results indicate the glacial clay to have low to high (generally medium) volume change potential. In accordance with NHBC Standards – Chapter 4.2, foundation depths should not be less than 1.25m for medium volume change potential clays allowing for restricted new planting. In areas outside the zone of influence of trees, foundation depths should not be less than 0.9m for soils having medium volume change potential.

However, in a large part of the development site, the Glacial Clay is overlain by made ground of generally granular nature, in excess of 2m thick, except at the northeastern corner of the Circatex site, where it is less than 1.25m thick. Therefore, the above minimum foundation depths are only applicable for shallow foundations to be constructed in the northeastern part of the former Circatex site.

10.7 Ground Gas Risk Assessment

Radon

According to the Envirocheck Report, the site is in a lower probability radon area, as less than 1% of homes are above the action level. Consequently, no radon protective measures are necessary at the site. A review of the radon maps published BRE (Ref. 1 Section 2.1) also indicate that no radon protection measures are required for development the site.

Other Ground Gases

Monitoring results from previous investigations are summarised in Table 4a (Dunelm) and Table 4b (PB). The gas screening values (or site characteristic hazardous gas flow rates) shown in these tables have been calculated in accordance with current CIRIA C665 guidance for both the previous monitoring and current monitoring results.

Three rounds of monitoring carried out by Dunelm in four wells indicated no methane and slightly elevated carbon dioxide levels except in one installation (up to 6% v/v but no flow). The monitoring was undertaken at atmospheric pressures of 994 and 1019 mbars. The gas screening levels for individual readings from Dunelm monitoring results have all been calculated as less than 0.0001 l/hr (although an anomalously high flow rate of about 12.1 l/hr but no gas was recorded on two occasions in one well).

Six rounds of monitoring undertaken by PB in seven installations indicated slightly elevated carbon dioxide levels (less than 1.9%v/v) and no methane with the maximum flow rate being 0.2 l/hr. The monitoring was carried out at atmospheric pressures of 993 to 1028 mbars. The gas screening levels for individual readings from PB monitoring results have all been calculated as equal or less than 0.0004 l/hr.

Monitoring of ground gases has been undertaken during the current investigation in six newly installed wells in the Circatex site together with six still functioning installations from the earlier PB investigation in the eastern part of the development area, both during the site works and on six return visits since completion of the fieldworks on 30 September 2011. The monitoring results are summarised in Table 4c. Recorded methane concentrations were below detection or negligible (maximum 0.4% v/v), except on one occasion (1.0% v/v at CBH7 on 25 October). Steady state carbon dioxide (CO₂) concentrations were less than 5.0% v/v, except on one or two occasions at CBH1, CBH2 and PBBH6 (maximum 5.7%). The gas flow rates were negligible (maximum 0.2 l/hr). Monitoring was carried out at atmospheric pressures ranging between 992 and 1028 mbars. Hydrogen sulphide and carbon monoxide concentrations were all negligible or below detection levels.

The maximum gas screening value (Site Characteristic Hazardous Gas Flow Rate) calculated from the current monitoring results is maximum 0.010 l/hr for CO₂ and 0.0001 for CH₄ (Table 4c). Using the worst recorded gas flow rate (0.4 l/hr) and maximum concentrations 1.0% for methane and 5.7% for carbon dioxide, the worst gas screening values are calculated as 0.022 for CO₂ and 0.004 for CH₄. These are still well below the threshold levels for Amber 1 classification.

Based on the gas monitoring results from previous and current investigations reviewed above and revealed ground conditions, the gassing regime at the site is likely to classify as Characteristic Gas Situation 1 (CS1 – very low hazard potential) in accordance with Table 1 of BS 8485:2007 and as 'Green' in accordance with Table 14.1 of NHBC (2007) using the traffic light classification of NHBC. However, a carbon dioxide concentration up to 5.7% v/v in one or two installations and a single methane concentration of 1% v/v were recorded when the atmospheric pressure was less than 1000 mbars, but no gas flow was recorded. Slightly elevated carbon dioxide concentrations might be due to anaerobic processes within the boreholes following excavation and are likely to reduce with time.

In accordance with CIRIA/NHBC guidelines, consideration should be given to increasing the gassing regime of the site to Amber or CS2 taking into account site specific conditions, gas flow rates etc. Based on only marginal exceedance of CO₂ in three boreholes and negligible gas flow rates recorded to date it is considered that the site's gassing regime is Green. Therefore, no special gas protection measures are considered necessary.

10.8 Ground Aggressivity

In determining the ground aggressivity potential of site soils, the test results from Dunelm (2009) and PB (2009) investigations together with those determined during the current investigation (both on soils and groundwater) have been used. These test results are summarised in Tables 3b, 3c and 3d. The procedure outlined in BRE Special Digest (for brownfield site Figure C6) has been used in carrying out the assessment in this report. As the sample numbers tested are in excess of nine for each soil type, the mean of the highest 20% of the sulphate results have been used to determine the 'characteristic' sulphate value.

Magnesium contents of the samples were not determined in the current and previous investigations as the water soluble sulphate content was less than 3000 mg/l. BRE Special Digest recommends the determination of chloride (Cl) and nitrate (NO₃) contents of soil samples for assessment of ground aggressivity in brownfield sites. Chloride and nitrate contents of the soil samples have not been determined in the current investigation as previous

results by PB and current groundwater results have not indicated significant concentrations of these compounds. BRE states that a moderate presence of chlorides is not of concern provided pH > 5.5. Previous investigations and current investigation indicated that pH in groundwater and site soils was in excess of 6.5.

Made Ground

Forty tests carried out by Dunelm on the made ground samples indicated a soluble sulphate content between 29 and 1789 mg/l, with pH in the range of 7.6 to 11.4. Three tests by BP on made ground soils indicated a soluble sulphate content between 51 and 301 mg/l with pH in the range of 8.2 to 8.6. Eleven test results on made ground soils from the current investigation indicated a soluble sulphate content between 300 and 1700 mg/l with pH in the range of 7.3 to 10.2. Tests on eight groundwater samples tested during the current investigation indicated a sulphate content of 340 to 1400 mg/l. Highest 20% of the sulphate results on made ground samples (a total of fifty four samples tested) from all three investigation were between 641 and 1789 mg/l, with a mean characteristic value of about 1100 mg/l. The characteristic sulphate content of groundwater (taken as the highest concentration) is 1400 mg/l.

Based on Table C2 of BRE Digest, the design sulphate class for concrete in contact with made ground is assessed to be DS-2 for Aggressive Chemical Environment for Concrete (ACEC) classified as AC-2, assuming mobile groundwater conditions (with characteristic pH >6.5).

Natural Soils

Twenty tests carried out by Dunelm on the natural soil samples (including Glacial Clay, Glacial Sand and Laminated Clay) indicated a soluble sulphate content between 49 and 148 mg/l, with pH in the range of 7.2 to 8.7, excluding one anomalously high result of 1214 mg/l from DMBH2 location. Five tests by BP on natural soils indicated a soluble sulphate content between 92 and 126 mg/l with pH in the range of 8.2 to 8.3. Four test results on natural soils from the current investigation indicated a soluble sulphate content between 88 and 590 mg/l with pH in the range of 7.9 to 8.8.

Highest 20% of the sulphate results on natural soil samples (a total of 30 samples tested) from all three investigation were between 126 and 590 mg/l, with a mean characteristic value of about 270 mg/l. Although based on characteristic soluble sulphate and pH results (in excess of 7.2), the natural soils would be classified as design sulphate class DS-1 and ACEC Class AC-1, as the characteristic sulphate concentration of groundwater at the site is 1400 mg/l, these natural soils would be classified as DS-2 for ACEC AC-2 based on Table C2 of BRE Digest, assuming mobile groundwater conditions (with characteristic pH >6.5).

Based on all laboratory test results from previous and current investigations and the ground conditions, the design sulphate class for concrete in contact with made ground/natural soil is assessed to be DS-2 for Aggressive Chemical Environment for Concrete (ACEC) classified as AC-2, assuming mobile groundwater conditions. All buried concrete should be designed in accordance with BRE Special Digest 1:2005.

10.9 Soil Combustibility

Made ground at the site locally contains potentially combustible materials (generally containing ash). Advice relating to the potential in-situ combustion is given in the ICRCL Guidance Note 61/84 "*Notes on the fire hazards of contaminated land*". The document suggests that in general, it seems likely that materials whose calorific values exceed 10 MJ/kg are almost certainly combustible, while those with values below 2 MJ/kg are unlikely to burn.

The factors affecting the potential for combustion are complex (e.g. soil porosity, moisture content, temperature, heat loss) and the calorific value test results only provide an indication of the likely combustibility. It is considered that granular deposits may present greater combustion hazard as they have a higher permeability and therefore could maintain the flow of oxygen to sustain underground burning. Combustible materials within a cohesive matrix would not generally be able to combust due to their generally low permeability.

Previously four made ground samples by Dunelm at the Circatex site and eight made ground samples (within the eastern part of the site) by PB were subjected to calorific value tests to assess their potential for combustion.

In the current investigation, five more samples from the Circatex site were tested for calorific value. The test results are summarised in Tables 7a, b and c. All samples except three from previous investigations returned a calorific value of <2 MJ/kg. Two samples tested by Dunelm and one sample tested by BP recorded a calorific value between 2 and 5.5 MJ/kg, indicated a slight potential for combustion.

Based on the calorific value test results, it is considered that the granular made ground materials at the site are unlikely to present a potential for combustion hazard. As also commented by BP that there is little evidence on the logs to support the presence of large volumes of coal ash/dust that might result in combustion.

10.10 CBR and Car Parking / Access Road

The proposed site levels, road layout and car parking areas are not known at this stage and may vary depending on the bidder's scheme layout. Therefore it is not possible to recommend CBR values for pavement/car park design at this stage.

In the current investigation, sixteen Panda Probe Tests were undertaken at the Circatex site using a Panda Probe Version 2 in order to provide preliminary information on CBR values for this area. Cone resistance values recorded progressively during the course of the testing have been used to determine equivalent CBR using empirical relationships techniques applicable to the device.

The results indicate equivalent CBR values in excess of 8.0 and in many cases in excess of 15 in the made ground soils within 0.8m depth (Table 8). Based on the test results and the general nature of the made ground, a CBR value of 5 can be adopted for the made ground within about 0.8m depth of the existing site levels at the Circatex site, subject to adequately rolling the formation and removing any soft spots/obstructions.

No testing was carried out east of the Circatex site. It is recommended that in situ CBR tests are carried out in new road/car parking areas at proposed formation levels, especially in the eastern part of the site following demolition of existing structures.

10.11 Soakaway Potential

Eight infiltration tests carried out in boreholes within 2m depth indicated very low permeability values. The made ground at the site is generally over 2m thick, except at the northernmost area of the Circatex site, and is underlain by practically impermeable clay strata (generally comprising slightly sandy slightly gravelly clay). Made ground itself is very heterogeneous.

Therefore, due to the low permeability values recorded by insitu testing within 2m depth of the ground and the presence of very low permeability Glacial Clay strata underlying the made ground, it is considered that soakaways are not generally feasible at the site.

10.12 Existing Foundations, Excavations and Groundwater Control

Based on the monitoring to date, groundwater is likely to be encountered at a depth of over 2.0m bgl within the made ground. Sump pumping may be adequate for shallow foundation and service excavations deeper than 2m. Trial pit/trench excavations between 2m and 4.5m depth indicated generally stable sides in made ground (with local instability), except when the groundwater was encountered at over 2-3m depth.

Previous plan by Holystone (and exploratory holes by Dunelm) had indicated the presence of a shallow concrete structure in the central northeastern part of the Circatex site. However, no in situ foundations were encountered during the current investigation in this part of the site or elsewhere, but some large concrete blocks (up to 2m across) were observed near the ground surface at parts of the site. Nonetheless, due allowance should be made for the presence of a small amount of relict foundations not revealed by the current investigation, as no records are present from Holystone demolition works at the Circatex site.

A concrete obstruction (possible concrete base to cellar?) was encountered at 2.0m bgl in the demolished pub area in the southeastern corner of the site. Elsewhere (along Frederick Street and New George Street), the infrastructure and buildings are largely intact, although some are currently unoccupied.

10.13 Reuse of Materials

At this stage, no cut and fill figures are available, nor proposed site levels. Based on the current site levels, it is not considered that significant cutting/filling will be carried, except perhaps the removal of the low earthbund encircling the Circatex site. The material excavated from the bund could be used for general levelling at the site and this is recommended as off site disposal costs can be significant. A number of compaction tests were carried out during the current investigation to assess the earthworks properties of the site soils for reuse (Table 6). The testing was confined to made ground soils taken from 0.2 to 1.0m depth, including a number of samples collected from the earthbund area.

Tests on cohesive made ground samples (generally comprising sandy gravelly clay with a low cobble content) recorded a maximum dry density (MDD) value of between 1.72 and 1.84 Mg/m³ at an optimum moisture content (OMC) of between 11 and 18%. It is considered that the excavated cohesive made ground would be slightly on the dry side of optimum moisture content for reuse as engineering fill as the natural moisture content of some of the samples (9 to 16%) was somewhat lower than the OMC values. This material may require to be conditioned (wetting) before reuse as engineering fill.

Tests on three granular made ground samples recorded a maximum dry density (MDD) value of between 1.69 and 1.84 Mg/m³ at an optimum moisture content (OMC) of between 13 and 18%. It is considered that the excavated granular made ground would be slightly on the dry side of optimum moisture content for reuse as engineering fill as the natural moisture content of the samples (10 to 15%) was somewhat lower than the OMC values. This material may require to be conditioned (wetting) before reuse as engineering fill.

It is anticipated that it may be possible for some of the demolition rubble and excavated foundations from the premises in the eastern part of the site to be processed into a 6F1/F2 or similar material and, if possible, be used for sub-base / capping materials for the road areas or as general engineering fill, if on site crushing facilities are available. However, this would also depend on phasing of the development. If it is proposed to use site won materials within the scheme, these materials should be engineered in accordance with the Highways Agency Specification for Highway Works, Series 600 – Earthworks. It is recommended that confirmatory tests be carried out prior to carrying out the earthworks if the site-won materials are to be used as engineering fill.

11.0 CONCLUSIONS AND RECOMMENDATIONS

Ground Conditions

The development area is underlain by made ground (locally including relict topsoil) between about 1.0m and 4.5m thick. In addition, an earbund, between about 0.5 and 1.0m high, comprising made ground, is present around the former Circatex site. The made ground is underlain by Glacial Clay, locally including Laminated Clay, between about 1m and 9m thick. The topmost 0.4 to 1.5m of the glacial deposits is generally weathered and has a lower strength and higher compressibility as indicated by N values and laboratory strength tests. The Coal Measures rocks, generally sandstones with occasional siltstones and mudstones, underlie the glacial deposits. The bedrock surface appears to dip generally towards the southwest from about 7m AOD in the northeast of the site to about -2m AOD in the southwest and west.

The made ground at the site is very heterogeneous varying in composition from slightly sandy gravelly clay with low cobble content to silty very gravelly sand with some cobbles. The cobbles and gravels generally comprise brick, concrete, sandstone, occasional flint, clinker, slag, coal, rare metals, plastic, pottery, rebar, glass. Locally, ash rich pockets/zones and ballast-like materials were also encountered.

Groundwater

The monitoring records obtained to date from current and previously installed monitoring wells across the site indicated the presence of a shallow groundwater within the made ground (possibly perched above the Glacial Clay), at a depth between about 2.0m to 3.9m bgl. The shallow groundwater table appears to dip towards the south.

Monitoring records of a limited number of standpipes with response zones within the rock strata indicated the presence a deeper confined groundwater table within the sandstones.

Coal Seams and Mineworkings

The site is known to be underlain by workings in five coal seams, the shallowest being the High Main seam at a depth of about 192m below ground level. An examination of the published 1:10,000 scale geological map indicated that the site may also be underlain by a number of coal seams of workable thickness (up to 1m thick) before the High Main is reached.

Based on a review of available information and previous borehole records, it is concluded that the site is not underlain by mineworkings at a depth shallow enough to affect the foundation design for the proposed residential development. Consequently, it is considered that no special remedial measures will be required to stabilise any potential mineworkings beneath the site for foundation purposes, and that the risk to the proposed development from historic mineworkings is negligible.

Engineering Considerations

Foundation Design Considerations

Made ground would not generally be suitable as a bearing stratum and foundations should be constructed to bear on the competent natural strata having adequate bearing capacity for the proposed building loads. It is considered that in areas where made ground is thicker than about 2.5m, ground improvement (e.g. vibrostone or vibroconcrete columns) or piled foundations would be more economical foundation solutions, although mass concrete trenchfill to deeper depths of say 3.5m, can also be considered. However, the presence of a shallow

groundwater table and potential instability of trench excavations should be taken into account if the foundations are to be taken beyond about 2.5m bgl.

Although vibrostone columns are considered to be suitable for the majority of the site, the local presence of thin, generally less than 0.3m thick, relict topsoil zones at the base of made ground, which are generally described as soft to firm or loose, may be considered unsuitable for this technique by the specialist ground improvement companies. Therefore, specialist contractors should be consulted on the viability of stone column improvement throughout the development site.

Many types of proprietary pile systems are available for low rise housing developments and specialist piling contractors should be consulted for design of the most economic piled foundations. Consideration should be given to designing the piles in accordance with 'Efficient design of piled foundations for low-rise housing' NHBC (2010).

In accordance with NHBC guidelines, suspended floor slabs are recommended where made ground exceeds 0.6m in thickness. However, consideration should be given to ground bearing slab if ground improvement is adopted for the foundations, subject to additional costs involved for this solution.

Soil Shrinkability and Trees

The plasticity test results from previous and current investigations indicate the Glacial Clay to have a variable low to high (generally medium) volume change potential. However, in a large part of the development site, Glacial Clay is overlain by made ground of generally granular nature, in excess of 2m thick, except at the northeastern corner of the Circatex site, where it is less than 1.25m thick. Therefore, the minimum foundation depths recommended by NHBC Standards Chapter 4.2 are only applicable for shallow foundations to be constructed in the northeastern part of the Circatex site.

Ground Aggressivity

Based on all laboratory test results from previous and current investigations and the ground conditions, the design sulphate class for concrete in contact with made ground/natural soil is assessed to be DS-2 for Aggressive Chemical Environment for Concrete (ACEC) classified as AC-2, assuming mobile groundwater conditions. All buried concrete should be designed in accordance with BRE Special Digest 1:2005.

Soakaway Potential

Due to the low permeability values recorded by insitu testing carried out within 2m depth of the ground and the presence of very low permeability Glacial Clay strata underlying the made ground, it is considered that soakaways are not generally feasible at the site.

Combustability Potential of Soils

Based on the Calorific Value test results from the current and previous ground investigations, it is considered that the made ground materials at the site are unlikely to present a potential for combustion hazard.

Gas Protection Measures

No radon protective measures are required for development at the site. Based on the gas monitoring results from previous and current investigations reviewed in this report and the revealed ground conditions, the gassing regime at the site is likely to classify as Characteristic Gas Situation 1 (CS1 – very low hazard potential) in accordance with Table 1 of BS

8485:2007 and as 'Green' using the traffic light classification of NHBC (2007). Therefore, no special gas protection measures are considered necessary.

Car Park/Road Pavement Design

The proposed site levels, road layout and car parking areas are not known at this stage and may vary depending on the bidder's scheme layout. Therefore it is not possible to recommend CBR values for pavement/car park design at this stage.

For preliminary design purposes, a CBR value of 5 can be adopted for the made ground within about 0.8m depth of the existing site levels at the Circatex site, subject to adequately proof rolling the formation and removing any soft spots/obstructions. It is recommended that in situ CBR tests are carried out in proposed new road/car parking areas at proposed formation levels, especially in the eastern part of the site following demolition of existing structures.

Reuse of Site Won Soils

Based on the current site levels, it is not considered that significant cutting/filling will be carried, except perhaps for the removal of the low earthbund encircling the Circatex site. The material excavated from the bund could be used for general levelling at the site and this is recommended as off site disposal costs can be significant. Based on a number of compaction tests carried out during the current investigation excavated made ground soils may require to be conditioned (wetting) before reuse as engineering fill.

If it is proposed to use site won materials within the scheme, these materials should be engineered in accordance with the Highways Agency Specification for Highway Works, Series 600 – Earthworks. It is recommended that confirmatory tests be carried out prior to carrying out the earthworks if the site-won materials are to be used as engineering fill.

Excavations, Groundwater Control

Groundwater is likely to be encountered at a depth of over 2.0m bgl within the made ground. Sump pumping may be adequate for shallow foundation and service excavations deeper than 2m.

No relict foundations were encountered during the current investigation in the Circatex site. Nonetheless, provision should be made for the presence of a small amount of relict foundations not revealed by the current investigation, as no detailed records are present from the demolition works at the Circatex site.

A concrete obstruction (possible concrete base to cellar?) was encountered at 2.0m bgl in the demolished pub area in the southeastern corner of the site. Elsewhere (along Frederick street and New George Street), the infrastructure and buildings are largely intact, although some are currently unoccupied.

Site Contamination, Risk Assessment and Remediation Strategy

Site Contamination and Risk Assessment

The chemical data obtained during the previous Dunelm and PB investigations and the current investigation have been assessed in relation to current guideline values and other criteria commonly used for the assessment of land contamination for residential land use purposes..

Elevated concentrations of metals, PAHs and TPH above adopted Tier 1 threshold levels and a localised asbestos 'hotspot' have been recorded at the development site. The potential risk to human health from these concentrations is assessed as moderate. However, the investigation carried out in the eastern part of the development site, currently occupied by

residential and commercial properties, was limited in scope. Therefore, further investigation and risk assessment should be undertaken in this part of the site following demolition of the properties.

Both previous and current investigations at the site recorded elevated dissolved phase concentrations of a number of contaminants in the shallow perched groundwater within the made as well as in the underlying deeper groundwater within the rock. It is considered that these concentrations are indicative of the regional groundwater quality and might have been arisen due to the historic industrial and/or coal mining activities in the general area. The overall risk to controlled waters due to the recorded elevated leachable and dissolved phase concentrations is considered low.

Soil concentrations of pH, arsenic, lead, mercury, PAH and TPH are elevated above either the Northumbrian Water trigger levels or the Water Regulations Advisory Scheme (WRAS) guideline values for supply pipe material selection. The risk presented by these contaminants can be minimised by selecting an appropriate material for the new water supply pipes. It is recommended that all chemical test results are forwarded to Northumbrian Water Ltd to determine their requirement for upgraded water supply pipes/services protection.

Remedial Measures

Due to the presence of elevated contaminants in the made ground, remedial measures, including provision of a clean cover system in the garden areas, are recommended to make the site suitable for 'residential' development. An outline remediation strategy is included in the report.

Disposal of Soil Waste

Limited WAC test results indicate that the majority of the made ground materials from shallow depth would generally classify as 'inert' waste for purposes of offsite disposal. However, there are pockets/zones of ash rich materials within the made ground, especially at a depth of over 1.0m bgl, which are likely to classify as 'stable non reactive hazardous waste' waste. Therefore, it is recommended that should any off site disposals be required, the made materials should be carefully segregated, stockpiled and subjected to WAC analysis to determine their actual waste classification prior to disposal.

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TABLES

Table 1a: Summary of Engineering Properties of Soils (Halcrow/WSP, 2003)

Stratum	Index properties		Bulk Density	Dry Density	SPT N values	Undrained Shear Strength*	Coefficient of Volume Compressibility
	w (%)	PI (%)	Mg/m ³	Mg/m ³	'N'	C _u (kPa)	m _v m ² /MN
Made Ground	8 to 68 (13)	62 (1)	ND	ND	18-19 (3))	28	
Laminated Clay	22 - 42 32 (11)	39 – 54 44 (10)	ND	ND	11 – 18 (2)	60 (1) 53 (1) hand vane	ND
Undifferentiated Glacial Clay	11- 32 19 (29)	20 – 43 28 (22)	1.77 – 2.06 1.98 (6)	1.46 – 1.79 1.64 (6)	22- 47 (6)	44 (1) 50 – 79 (6) (Hand Vane)	See WSP (2003)

Notes: 12-16: range of values; **28**: mean value, (7): total number of results. * Results of laboratory undrained triaxial tests, unless specified.

Table 1b: Summary of Engineering Properties of Soils (Dunelm, 2009)

Stratum	Index properties		Bulk Density	Dry Density	SPT N values	Undrained Shear Strength*	Coefficient of Volume Compressibility
	w (%)	PI (%)	Mg/m ³	Mg/m ³	'N'	C _u (kPa)	m _v m ² /MN
Made Ground	20-28 (2)	18	-		0 to 26 (19)		
Laminated Clay	19 - 44 32 (8)	16 – 46 29 (8)			3 – 26 (9)	ND	ND
Undifferentiated Glacial Clay	9- 29 18 (19)	13 – 33 20 (16)	2.13 – 2.21 2.17 (3)	1.68 – 1.95 1.84 (3)	4 – 65 (37) R (1)	73 – 150 (3)	ND
Organic Clay	21 – 42 34 (4)	25 – 52 36 (3)	ND	ND	7 (1)		
Sand	28 – 32 30 (3)	N/A	ND	ND	2 – 73 (7) R (1)		

Table 1c: Summary of Engineering Properties of Soils (PB, 2009)

Stratum	Index properties		Bulk Density	Dry Density	SPT N values	Undrained Shear Strength*	Coefficient of Volume Compressibility
	w (%)	PI (%)	Mg/m ³	Mg/m ³	'N'	C _u (kPa)	m _v m ² /MN Overburden+ 100kPa
Made Ground			-		4 - 46 (28) Granular Made Ground 6 - 29 (14) Cohesive Made Ground		
Laminated Clay	11 - 30 20 (6)	12 - 36 21 (6)	1.92 - 2.13 2.00 (3)	ND	11 - 36 (8)	47 - 118 (3)	0.09
Undifferentiated Glacial Clay	10- 36 20 (9)	14 - 32 19 (9)	2.00 - 2.21 2.11 (2)	ND	10- 47 (10)	52 - 107 (2)	0.17 - 0.20

Notes: 12-16: range of values; **20**: Mean value, (7): total number of results. * Results of laboratory undrained triaxial tests, unless specified.

Table 1d: Summary of Engineering Properties of Soils (Current Investigation)

Stratum	Index properties		Bulk Density	Dry Density	SPT N values	Undrained Shear Strength*	Coefficient of Volume Compressibility	
	w (%)	PI (%)	Mg/m ³	Mg/m ³	'N'	C _u (kPa)	m _v m ² /MN 50 – 100 kPa pressure	m _v m ² /MN 100 – 200 kPa pressure
Made Ground	9 – 20 (13) 21 – 30 (2) (relict topsoil)	ND	ND	ND	2 – 30 (38) plus 1 refusal (generally 4 to 12) 3 – 8 (4) (relict topsoil)	ND	ND	ND
Laminated Clay	14 - 31 (7)	28 – 42 34 (3)	1.94 – 2.25 2.05 (4)	1.49 – 1.99 1.65 (4)	2 to 19 (11) (generally 8 to 15)	74 – 200 (4)	0.15 – 0.25 (3)	0.17 – 0.19 (3)
Undifferentiated Glacial Clay	10 - 30 (18)	18 – 40 28 (7)	2.00 – 2.28 2.11 (11)	1.53 – 2.04 1.77 (11)	2 to 48 (49) plus 8 refusal (generally 8 to 25)	74 – 94 (3) (weathered) 85 - 358 (8)	0.24 – 0.31 (3) (weathered)	0.19 – 0.21 (3) (weathered)

Notes: 12-16: range of values; **12:** mean value, (7): total number of results. * Results of laboratory undrained triaxial tests. N/A Not applicable

Table 2a: Summary of Point Load and Uniaxial Compressive Strength Tests on Rock (PB, 2009)

Rock Type	BH	Depth (mbgl)	D _{bulk} (Mg/m ³)	W (%)	UCS (MPa)	PLS (I ₅₀)	UCS* (MPa)
Sandstone	PBBH05	8.20-8.55	2.35	6.3	34.8		
Sandstone	PBRBH01A	9.10-9.40	2.40	6.6	22.9		
Sandstone	PBRBH02	9.07-9.47	2.31	7.0	35.0		
Sandstone	PBRBH02	11.05-11.48	2.42	5.8	28.7		
Sandstone	PBBH05	7.28-7.48	A	6.2	-	1.01	20.2
Sandstone	PBBH05	9.00-9.12	A	6.4		0.98	19.6
Sandstone	PBRBH01A	7.20-7.40	A	6.6		0.97	19.4
Sandstone	PBRBH01A	9.70-10.00	A	6.7	-	0.85	17.0
Sandstone	PBRBH02	10.20-10.35	A	4.9	-	1.71	34.2
Sandstone	PBRBH02	12.23-12.43	A	5.5		1.00	20.0

Notes: Equivalent UCS (MPa) = 20 x I₅₀ (MPa). A- Axial test.

Table 2b: Summary of Point Load and Uniaxial Compressive Strength Tests on Rock (Current Investigation)

Rock Type	BH	Depth (mbgl)	D _{bulk} (kN/m ³)	D _{dry} (kN/m ³)	W (%)	UCS (MPa)	PLS (I ₅₀)	UCS* (MPa)
Sandstone	CBH1	10.28	2.36	2.22	6.6	22.9		
Sandstone	CBH1	13.00	2.29	2.21	3.4	30.8		
Sandstone	CBH4	14.37	2.36	2.24	5.1	30.7		
Sandstone	CBH4	16.04	2.42	2.29	5.6	21.0		
Sandstone	CBH9	14.50	2.31	2.17	6.8	16.7		
Sandstone	CBH10	8.34	2.37	2.24	6.1	22.1		
Sandstone	CBH10	9.18	2.38	2.25	5.9	23.0		
Sandstone	CBH10	11.16	2.30	2.15	7.3	29.0		
Sandstone	CBH1	9.28		A			2.42	43.6
Sandstone	CBH1	10.67		A			0.79	14.2
Sandstone	CBH1	12.85		A			1.08	19.4
Sandstone	CBH1	13.34		A			2.80	50.4
Sandstone	CBH4	12.30		A			2.39	43.0
Sandstone	CBH4	13.35		A			1.92	34.6
Sandstone	CBH4	14.00		A			1.81	32.6
Sandstone	CBH4	16.43		A			1.84	33.1
Sandstone	CBH9	14.76		A			1.49	26.8
Sandstone	CBH10	8.10		A			1.31	23.6
Sandstone	CBH10	8.92		A			2.65	47.7
Sandstone	CBH10	11.46		A			1.64	29.5
Siltstone	CBH10	10.44		A			0.03	0.5
Siltstone	CBH10	10.66		A			0.03	0.5
Mudstone	CBH9	18.05		A			0.23	4.1

Notes: Equivalent UCS (MPa) = 18 x I₅₀ (MPa) (see Figure 10). A- Axial test.

Table 3a: Ground Aggressivity Test Results (WSP, 2003)

Soil Type	Exploratory Hole	Depth (m bgl)	Sulphate (2:1) (mg/l)	pH
Made Ground				
	BH1	1.0	140	7.4
	BH1	1.5	230	8.1
	BH2	0.5	<100	7.5
	BH2	1.5	500	8.6
	BH2	2.0	160	7.8
	BH2	2.5	360	7.7
	BH4	0.5	650	11.7
	BH4	1.5	940	10.0
	BH5	0.5	650	11.1
		Range	<100 - 940	7.5 - 11.1

Table 3b: Ground Aggressivity Test Results (Dunelm, 2009)

Soil Type	Exploratory Hole	Depth (m bgl)	Sulphate (2:1) (mg/l)	pH
Made Ground				
Granular	MBH6	1.5	224	8.2
	MBH1	0.8	230*	8.4
	MBH2	0.6	67*	8.5
	MBH4	0.5	29*	8.4
	MBH5	0.1	119*	8.2
	MBH8	0.3	157*	8.5
	MBH12	0.8	1271*	9.4
	BH3	0.2	81*	7.6
	BH3	0.5	284*	10.8
	BH4	1.0	641*	8.6
	TP1	0.5	321*	8.7
	TP2	0.2	641*	8.3
	TP3	1.0	266*	8.6
	TP4	0.6	108*	8.6
	TP6	1.0	1017*	8.3
	TP7	0.2	295*	8.7
	TP8	0.5	1789*	8.2
	TP10	0.2	228*	8.2
	TP11	0.2	221*	8.5
	TP12	1.1	1282*	7.7
	TP13	0.2	353*	11.4
	TP15	0.2	1367*	8.9
	TP16	0.5	468*	8.2
	TP19	0.5	329*	8.2
	TP30	1.0	632*	8.3
	TP31	0.5	272*	8.2
	TP31	2.5	204*	8.3
	TP32	0.5	148*	8.4
	TP33	1.0	387*	8.1
		Range	29 - 1789	7.6 - 11.4
Cohesive (gravelly sandy clay)				
	MBH6	0.7	375*	8.3
	TP20	0.2	294*	7.8
	TP21	0.5	620*	8.1

	TP22	1.0	713*	7.7
	TP24	0.2	116*	7.8
	TP26	0.5	552*	8.6
	TP27	1.0	501*	8.0
	TP28	0.2	828*	8.9
	TP29	0.2	400*	8.6
	TP30	0.2	539*	8.4
	TP32	0.2	292*	8.1
		Range	116 - 828	7.7 – 8.9
Laminated Clay				
	MBH1	3.0	99	8.1
	MBH2?	3.0	1214	7.6
	MBH3	0.7	91	8.2
	MBH8	1.6	99	7.9
	MBH10	2.4	84	8.3
	TP29	2.5	33	8.1
		Range	99 - 1214	7.6 - 8.3
Glacial Clay Undifferentiated				
	BH1	8.0	107	8.5
	BH3	2.0	148	8.6
	BH3	4.5	91	8.4
	BH4	2.0	74	8.0
	BH5	8.0	74	8.7
	MBH4	2.0	82	8.4
	TP18	2.2	103	8.4
	TP19	2.0	111	8.2
	TP20	2.0	123	8.2
	TP21	2.0	49	8.4
	TP22	2.5	111	8.3
	TP23	1.0	132	7.2
	TP28	2.5	72	8.3
		Range	49 - 148	7.2 – 8.7
Glacial Sand				
	TP5	3.0	66	8.8
	TP7	3.3	82	8.5
	TP26	3.2	54	7.7
		Range	54 - 82	7.7 – 8.8

Notes: * - environmental test result. Granular – broad classification based on log description.

Table 3c: Ground Aggressivity Test Results (PB, 2009)

Soil Type	Exploratory Hole	Depth (m bgl)	Sulphate (2:1) (mg/l)	Total Sulphur %	NH ₄ mg/kg	Cl mg/l	pH
Made Ground							
	PBRBH02	1.95	221	0.09	1.0	68	8.2
	PBBH04A	1.25	51	0.10	1.3	15	8.6
	PBBH06	3.0	301	0.30	1.1	30	8.3
		Range	51 - 301	0.09 - 0.30	1.0 - 1.3	15 - 68	8.2 - 8.6
Laminated Clay							
	PBBH01	3.35	92	0.09	2.3	ND	8.3
	TSBH05	4.75	126	0.07	3.2	26	8.3
		Range	92 - 126	0.07 - 0.90	2.3 - 3.2	26	8.3
Glacial Clay							
	PBBH02	5.25	115	0.18	6.3	18	8.3
	PBBH06	4.0	94	0.13	4.2	29	8.2
	PBBH03	3.0	394	0.09	6.7	47	8.2
		Range	94 - 115	0.09 - 0.18	4.2 - 6.7	18 - 47	8.2 - 8.3

Table 3d: Ground Aggressivity Test Results (Current Investigation)

Soil Type	Exploratory Hole	Depth (m bgl)	Sulphate (2:1) (mg/l)	pH
Made Ground				
Granular	CBH1	0.2	320	9.4
	CBH1	1.5	180	10.2
	CBH6	0.7	120	8.5
		Range	120 - 320	8.5 - 10.2
Cohesive				
	CBH1	3.2	300	8.5
	CBH4	0.6	640	8.9
	CBH4	1.2	710	8.5
	CBH4	2.2	530	8.2
	CBH6	1.7	1700	7.3
	CBH7	0.2	610	8.3
	CBH7	1.7	890	8.4
	CBH7	2.7	360	8.4
		Range	300 - 1700	7.3 - 8.9
Glacial Clay Undifferentiated				
	CBH1	4.2	590	7.9
	CBH4	3.2	88	8.4
	CBH7	3.2	120	8.4
	CBH7	3.7	150	8.8
		Range	88 - 590	7.9 - 8.8

Notes: Granular – broad classification based on log description.

Groundwater

Soil Type	Exploratory Hole	Sulphate (2:1) (mg/l)	Chloride (mg/l)	Ammoniacal Nitrogen (as N) (mg/l)	pH
	CBH1	430	230	0.51	7.3
	CBH2	1400	240	3.2	7.1
	PBRBH2(P)	610	260	0.12	7.2
	PBRBH2(S)	350	51	0.07	7.5
	PBBH05	260	180	0.08	7.3
	CBH4	1000	280	4.2	7.2
	CBH9	430	220	1.9	7.3
	CBH10	340	170	1.3	7.3
		Range	340 - 1400	0.07 - 4.2	7.1 - 7.5

Notes: P 19mm piezometer, S 50mm standpipe

Table 4a: Gas Monitoring Results (Dunelm, 2009)

BH No		MBH2							
Date	Atmospheric pressure (mbars)	CO ₂ (%v/v)	O ₂ (%v/v)	CH ₄ (%v/v)	H ₂ S (ppm)	CO (ppm)	Gas Flow Rate (l/hr)	Gas screening value (l/hr) (Note 1)	
								CO ₂	CH ₄
21.08.08	1004	2.0	17.4	ND	NR	NR	ND	<0.0001	<0.0001
05.09.08	994	2.3	17.5	ND	NR	NR	ND	<0.0001	<0.0001
19.08.09	1019	2.3	17.2	ND	NR	NR	ND	<0.0001	<0.0001
BH No		MBH3							
Date	Atmospheric pressure (mbars)	CO ₂ (%v/v)	O ₂ (%v/v)	CH ₄ (%v/v)	H ₂ S (ppm)	CO (ppm)	Gas Flow Rate (l/hr)	Gas screening value (l/hr)	
								CO ₂	CH ₄
21.08.08	1004	ND	9.1	ND	NR	NR	12.1	<0.0001	<0.0001
05.09.08	994	0.2	11.7	ND	NR	NR	ND	<0.0001	<0.0001
19.09.08	1019	ND	13.2	ND	NR	NR	12	<0.0001	<0.0001
BH No		MBH4							
Date	Atmospheric pressure (mbars)	CO ₂ (%v/v)	O ₂ (%v/v)	CH ₄ (%v/v)	H ₂ S (ppm)	CO (ppm)	Gas Flow Rate (l/hr)	Gas screening value (l/hr)	
								CO ₂	CH ₄
21.08.08	1004	5.7	13.0	ND	NR	NR	ND	<0.0001	<0.0001
05.09.08	994	6.0	14.2	ND	NR	NR	ND	<0.0001	<0.0001
19.08.09	1019	6.0	11.1	ND	NR	NR	ND	<0.0001	<0.0001
BH No		BH4							
Date	Atmospheric pressure (mbars)	CO ₂ (%v/v)	O ₂ (%v/v)	CH ₄ (%v/v)	H ₂ S (ppm)	CO (ppm)	Gas Flow Rate (l/hr)	Gas screening value (l/hr)	
								CO ₂	CH ₄
21.08.08	1004	1.3	14.3	ND	NR	NR	ND	<0.0001	<0.0001
05.09.08	994	1.4	16.3	ND	NR	NR	ND	<0.0001	<0.0001
19.08.09	1019	0.9	17.0	ND	NR	NR	ND	<0.0001	<0.0001

Notes: Calculated in accordance with Current guidance (CIRIA C665: 2007 and BS 8450:2007). ND: None Detected. NR-Not measured.

Table 4b: Gas Monitoring Results (PB, 2009)

PBRBH01A										
BH No	Date	Atmospheric pressure (mbars)	CO ₂ (%v/v)	O ₂ (%v/v)	CH ₄ (%v/v)	H ₂ S (ppm)	CO (ppm)	Gas Flow Rate (l/hr)	Gas screening value (l/hr) (Note 1)	
									CO ₂	CH ₄
	24.02.09	1023	0.0	20.9	0.0	0.0	0.0	0.0	<0.0001	<0.0001
	03.03.09	1001	NR	NR	NR	NR	NR	NR	-	-
	10.03.09	1009	NR	NR	NR	NR	NR	NR	-	-
	17.03.09	1039	NR	NR	NR	NR	NR	NR	-	-
	26.03.09	993	NR	NR	NR	NR	NR	NR	-	-
	01.04.09	1030	0.0	21.1	0.0	0.0	0.0	0.0	<0.0001	<0.0001
PBBH01										
BH No	Date	Atmospheric pressure (mbars)	CO ₂ (%v/v)	O ₂ (%v/v)	CH ₄ (%v/v)	H ₂ S (ppm)	CO (ppm)	Gas Flow Rate (l/hr)	Gas screening value (l/hr)	
									CO ₂	CH ₄
	24.02.09	1023	0.0	20.9	0.0	0.0	0.0	0.0	<0.0001	<0.0001
	03.03.09	1001	0.0	20.9	0.0	0.0	0.0	0.0	<0.0001	<0.0001
	10.03.09	1009	0.0	21.1	0.0	0.0	0.0	0.1	<0.0001	<0.0001
	17.03.09	1039	0.0	20.6	0.0	0.0	0.0	0.0	<0.0001	<0.0001
	26.03.09	993	0.0	21.0	0.0	0.0	0.0	0.0	<0.0001	<0.0001
	01.04.09	1030	0.0	20.7	0.0	0.0	0.0	0.0	<0.0001	<0.0001
TSBH02										
BH No	Date	Atmospheric pressure (mbars)	CO ₂ (%v/v)	O ₂ (%v/v)	CH ₄ (%v/v)	H ₂ S (ppm)	CO (ppm)	Gas Flow Rate (l/hr)	Gas screening value (l/hr)	
									CO ₂	CH ₄
	24.02.09	1023	0.0	21.1	0.0	0.0	0.0	-1.4	<0.0001	<0.0001
	03.03.09	1001	0.3	20.2	0.0	0.0	0.0	0.0	<0.0001	<0.0001
	10.03.09	1009	0.0	20.9	0.0	0.0	0.0	-0.1	<0.0001	<0.0001
	17.03.09	1039	0.0	20.6	0.0	0.0	0.0	0.0	<0.00001	<0.0001
	26.03.09	993	0.0	21.1	0.0	0.0	0.0	0.0	<0.0001	<0.0001
	01.04.09	1030	0.0	20.8	0.0	0.0	0.0	-0.4	<0.0001	<0.0001
PBRBH02										
BH No	Date	Atmospheric pressure (mbars)	CO ₂ (%v/v)	O ₂ (%v/v)	CH ₄ (%v/v)	H ₂ S (ppm)	CO (ppm)	Gas Flow Rate (l/hr)	Gas screening value (l/hr) (Note 1)	
									CO ₂	CH ₄
	24.02.09	1023	0.0	20.9	0.0	0.0	0.0	0.0	<0.0001	<0.0001
	03.03.09	1001	0.0	20.9	0.0	0.0	0.0	0.1	<0.0001	<0.0001
	10.03.09	1009	0.0	21.0	0.0	0.0	0.0	0.0	<0.0001	<0.0001
	17.03.09	1039	0.0	20.6	0.0	0.0	0.0	0.0	<0.0001	<0.0001
	26.03.09	993	0.0	20.7	0.0	0.0	0.0	0.0	<0.0001	<0.0001
	01.04.09	1030	0.0	20.9	0.0	0.0	0.0	0.0	<0.0001	<0.0001
PBBH04										
BH No	Date	Atmospheric pressure (mbars)	CO ₂ (%v/v)	O ₂ (%v/v)	CH ₄ (%v/v)	H ₂ S (ppm)	CO (ppm)	Gas Flow Rate (l/hr)	Gas screening value (l/hr) (Note 1)	
									CO ₂	CH ₄
	24.02.09	1023	0.0	21.3	0.0	0.0	0.0	0.0	<0.0001	<0.0001
	03.03.09	1001	0.0	21.0	0.0	0.0	0.0	0.0	<0.0001	<0.0001
	10.03.09	1009	0.0	21.1	0.0	0.0	0.0	0.4	<0.0001	<0.0001
	17.03.09	1039	0.0	20.7	0.0	0.0	0.0	0.0	<0.0001	<0.0001
	26.03.09	993	0.0	21.1	0.0	0.0	0.0	0.0	<0.0001	<0.0001
	01.04.09	1030	0.0	20.9	0.0	0.0	0.0	0.1	<0.0001	<0.0001
PBBH05										
BH No	Date	Atmospheric pressure (mbars)	CO ₂ (%v/v)	O ₂ (%v/v)	CH ₄ (%v/v)	H ₂ S (ppm)	CO (ppm)	Gas Flow Rate (l/hr)	Gas screening value (l/hr) (Note 1)	
									CO ₂	CH ₄
	24.02.09	1023	0.6	20.0	0.0	0.0	0.0	0.0	<0.0001	<0.0001
	03.03.09	1001	0.0	21.0	0.0	0.0	0.0	0.0	<0.0001	<0.0001

10.03.09	1009	0.1	21.0	0.0	0.0	0.0	0.2	0.0002	<0.0001
17.03.09	1039	0.0	20.7	0.0	0.0	0.0	0.0	<0.0001	<0.0001
26.03.09	993	0.2	20.8	0.0	0.0	0.0	0.2	0.0004	<0.00001
01.04.09	1030	0.2	20.9	0.0	0.0	0.0	0.0	<0.0001	<0.0001
BH No	PBBH06								
Date	Atmospheric pressure (mbars)	CO ₂ (%v/v)	O ₂ (%v/v)	CH ₄ (%v/v)	H ₂ S (ppm)	CO (ppm)	Gas Flow Rate (l/hr)	Gas screening value (l/hr) (Note 1)	
								CO ₂	CH ₄
24.02.09	1023	1.6	19.5	0.0	0.0	0.0	0.0	<0.0001	<0.0001
03.03.09	1001	1.9	18.8	0.0	0.0	0.0	0.0	<0.0001	<0.0001
10.03.09	1009	0.2	21.2	0.0	0.0	0.0	-0.1	<0.0001	<0.0001
17.03.09	1039	0.3	20.5	0.0	0.0	0.0	0.0	<0.0001	<0.0001
26.03.09	993	0.6	20.8	0.0	0.0	0.0	-0.2	<0.0001	<0.0001
01.04.09	1030	0.0	20.8	0.4	0.0	0.0	0.0	<0.0001	<0.0001

Notes: Calculated in accordance with Current guidance (CIRIA C665: 2007 and BS 8450:2007).

ND: None Detected. NR-Not measured

Table 4c: Gas Monitoring Results (Current Investigation)

Cundall Installations

CBH1									
BH No									
Date	Atmospheric pressure (mbars)	CO ₂ (%v/v)	O ₂ (%v/v)	CH ₄ (%v/v)	H ₂ S (ppm)	CO (ppm)	Gas Flow Rate (l/hr)	Gas screening value (l/hr) (Note 1)	
								CO ₂	CH ₄
27.09.11	1022	0.5	19.1	<0.1	<1.0	4.0	0.0	0.0	0.0
29.09.11	1020	0.1	19.0	<0.1	<1.0	<1.0	0.0	0.0	0.0
03.10.11	1004	0.3	19.0	<0.1	<1.0	<1.0	0.0	0.0	0.0
13.10.11	1028	0.1	5.6	<0.1	<1.0	<1.0	0.0	0.0	0.0
19.10.11	1011	4.3	12.8	<0.1	<1.0	<1.0	0.0	0.0	0.0
25.10.11	993	5.3	7.1	<0.1	<1.0	<1.0	0.2	0.0106	0.0001
08.11.11	1013	5.7	2.0	<0.1	<1.0	<1.0	0.0	0.0	0.0
24.11.11	1019	5.4	0.6	<0.1	<1.0	<1.0	0.0	0.0	0.0
CBH2									
BH No									
Date	Atmospheric pressure (mbars)	CO ₂ (%v/v)	O ₂ (%v/v)	CH ₄ (%v/v)	H ₂ S (ppm)	CO (ppm)	Gas Flow Rate (l/hr)	Gas screening value (l/hr)	
								CO ₂	CH ₄
22.09.11	1010	0.7	20.5	<0.1	<1.0	<1.0	0.0	0.0	0.0
23.09.05	1009	3.5	16.8	<0.1	<1.0	<1.0	0.0	0.0	0.0
26.09.11	1016	4.2	16.6	<0.1	<1.0	<1.0	0.0	0.0	0.0
27.09.11	1022	2.3	18.3	<0.1	<1.0	<1.0	0.0	0.0	0.0
28.09.11	1020	3.8	16.0	<0.1	<1.0	<1.0	0.0	0.0	0.0
03.10.11	1004	3.0	18.1	<0.1	<1.0	<1.0	0.0	0.0	0.0
13.10.11	1028	4.0	16.6	0.1	<1.0	<1.0	0.0	0.0	0.0
19.10.11	1011	3.6	16.9	<0.1	<1.0	<1.0	0.0	0.0	0.0
25.10.11	993	5.0	15.1	<0.1	<1.0	<1.0	0.0	0.0	0.0
08.11.11	1013	5.5	13.5	<0.1	<1.0	<1.0	0.0	0.0	0.0
24.11.11	1019	0.2	20.4	<0.1	<1.0	<1.0	0.0	0.0	0.0
CBH4									
BH No									
Date	Atmospheric pressure (mbars)	CO ₂ (%v/v)	O ₂ (%v/v)	CH ₄ (%v/v)	H ₂ S (ppm)	CO (ppm)	Gas Flow Rate (l/hr)	Gas screening value (l/hr)	
								CO ₂	CH ₄
28.09.11	1020	0.1	18.7	<0.1	<1.0	7.0	0.0	0.0	0.0
03.10.11	1004	0.1	21.0	<0.1	<1.0	<1.0	0.0	0.0	0.0
13.10.11	1028	0.5	13.8	0.1	<1.0	<1.0	0.1	0.0005	0.0001
19.10.11	1011	0.7	12.8	0.1	<1.0	<1.0	0.0	0.0	0.0
25.10.11	993	0.9	12.4	<0.1	<1.0	<1.0	0.0	0.0	0.0
08.11.11	1013	1.4	9.5	<0.1	<1.0	<1.0	0.0	0.0	0.0
24.11.11	1019	2.0	7.8	<0.1	<1.0	<1.0	0.0	0.0	0.0
CBH7									
BH No									
Date	Atmospheric pressure (mbars)	CO ₂ (%v/v)	O ₂ (%v/v)	CH ₄ (%v/v)	H ₂ S (ppm)	CO (ppm)	Gas Flow Rate (l/hr)	Gas screening value (l/hr)	
								CO ₂	CH ₄
26.09.11	1016	0.3	17.1	0.4	<1.0	<1.0	0.0	0.0	0.0
27.09.11	1022	0.4	19.2	0.0	<1.0	<1.0	0.0	0.0	0.0
28.09.11	1020	0.4	16.8	0.1	<1.0	<1.0	0.0	0.0	0.0
03.10.11	1004	0.2	21.0	<0.1	<1.0	<1.0	0.0	0.0	0.0
13.10.11	1028	1.2	18.0	0.1	<1.0	<1.0	0.1	0.0012	0.0001
19.10.11	1010	1.3	19.0	0.1	<1.0	<1.0	0.0	0.0	0.0
25.10.11	992	1.3	1.1	1.0	<1.0	<1.0	0.0	0.0	0.0
08.11.11	1013	1.3	6.8	0.1	<1.0	<1.0	0.0	0.0	0.0
24.11.11	1019	1.4	16.8	<0.1	<1.0	<1.0	0.0	0.0	0.0
CBH9									
BH No									
Date	Atmospheric pressure (mbars)	CO ₂ (%v/v)	O ₂ (%v/v)	CH ₄ (%v/v)	H ₂ S (ppm)	CO (ppm)	Gas Flow Rate (l/hr)	Gas screening value (l/hr)	
								CO ₂	CH ₄

03.10.11	1004	<0.1	207	0.2	<1.0	<1.0	0.0	0.0	0.0
13.10.11	1028	<0.1	19.2	0.1	<1.0	<1.0	0.0	0.0	0.0
19.10.11	1010	<0.1	21.0	<0.1	<1.0	<1.0	0.0	0.0	0.0
25.10.11	992	<0.1	20.6	0.1	<1.0	<1.0	0.0	0.0	0.0
08.11.11	1013	<0.1	19.9	0.4	<1.0	<1.0	0.0	0.0	0.0
24.11.11	1018	<0.1	20.7	<0.1	<1.0	<1.0	0.0	0.0	0.0
BH No	CBH10								
Date	Atmospheric pressure (mbars)	CO ₂ (%v/v)	O ₂ (%v/v)	CH ₄ (%v/v)	H ₂ S (ppm)	CO (ppm)	Gas Flow Rate (l/hr)	Gas screening value (l/hr)	
								CO ₂	CH ₄
03.10.11	1004	0.4	17.5	0.1	<1.0	<1.0	0.0	0.0	0.0
13.10.11	1028	0.8	13.3	0.1	<1.0	<1.0	0.0	0.0	0.0
19.10.11	1010	0.9	8.4	<0.1	<1.0	<1.0	0.0	0.0	0.0
25.10.11	992	0.8	8.7	<0.1	<1.0	<1.0	0.0	0.0	0.0
08.11.11	1013	1.2	7.8	<0.1	<1.0	<1.0	0.0	0.0	0.0
24.11.11	1018	1.3	8.5	<0.1	<1.0	<1.0	0.0	0.0	0.0

PB Installations

BH No	PBRBH01A								
Date	Atmospheric pressure (mbars)	CO ₂ (%v/v)	O ₂ (%v/v)	CH ₄ (%v/v)	H ₂ S (ppm)	CO (ppm)	Gas Flow Rate (l/hr)	Gas screening value (l/hr)	
								CO ₂	CH ₄
	Blocked access								
BH No	PBBH01 (19mm)								
Date	Atmospheric pressure (mbars)	CO ₂ (%v/v)	O ₂ (%v/v)	CH ₄ (%v/v)	H ₂ S (ppm)	CO (ppm)	Gas Flow Rate (l/hr)	Gas screening value (l/hr)	
								CO ₂	CH ₄
28.09.11	1020	0.0	21.3	0.0	<1.0	<1.0	0.0	0.0	0.0
03.10.11	1004	0.0	21.0	0.0	<1.0	<1.0	0.0	0.0	0.0
13.10.11	1027	0.9	20.6	0.1	<1.0	<1.0	0.0	0.0	0.0
19.10.11	flooded								
25.10.11	flooded								
08.11.11	flooded								
24.11.11	flooded								
BH No	PBBH02								
Date	Atmospheric pressure (mbars)	CO ₂ (%v/v)	O ₂ (%v/v)	CH ₄ (%v/v)	H ₂ S (ppm)	CO (ppm)	Gas Flow Rate (l/hr)	Gas screening value (l/hr)	
								CO ₂	CH ₄
28.09.11	1020	2.0	19.5	0.1	<1.0	<1.0	0.0	0.0	0.0
03.10.11	1004	1.4	18.7	0.0	<1.0	<1.0	0.0	0.0	0.0
13.10.11	1027	2.8	18.5	0.1	<1.0	<1.0	0.0	0.0	0.0
19.10.11	1011	2.8	18.4	<0.1	<1.0	<1.0	0.2	0.0056	<0.0002
25.10.11	992	2.5	17.9	0.1	<1.0	<1.0	0.0	0.0	0.0
08.11.11	1011	1.8	16.9	<0.1	<1.0	<1.0	0.0	0.0	0.0
24.11.11	1018	2.3	17.4	<0.1	<1.0	<1.0	0.0	0.0	0.0
BH No	PBRBH02 (50mm)								
Date	Atmospheric pressure (mbars)	CO ₂ (%v/v)	O ₂ (%v/v)	CH ₄ (%v/v)	H ₂ S (ppm)	CO (ppm)	Gas Flow Rate (l/hr)	Gas screening value (l/hr)	
								CO ₂	CH ₄
28.09.11	1020	0.1	21.2	0.1	<1.0	<1.0	0.0	0.0	0.0
03.10.11	1004	0.0	21.0	<0.1	<1.0	<1.0	0.0	0.0	0.0
13.10.11	1027	0.1	20.6	<0.1	<1.0	<1.0	0.0	0.0	0.0
19.10.11	1011	0.1	21.1	<0.1	<1.0	<1.0	0.0	0.0	0.0
25.10.11	992	<0.1	20.9	<0.1	<1.0	<1.0	0.0	0.0	0.0
08.11.11	1011	0.1	21.1	<0.1	<1.0	<1.0	0.0	0.0	0.0
24.11.11	1018	<0.1	21.1	<0.1	<1.0	<1.0	0.0	0.0	0.0

PBBH04									
Date	Atmospheric pressure (mbars)	CO ₂ (%v/v)	O ₂ (%v/v)	CH ₄ (%v/v)	H ₂ S (ppm)	CO (ppm)	Gas Flow Rate (l/hr)	Gas screening value (l/hr)	
								CO ₂	CH ₄
	Blocked access								
PBBH05 (50mm)									
Date	Atmospheric pressure (mbars)	CO ₂ (%v/v)	O ₂ (%v/v)	CH ₄ (%v/v)	H ₂ S (ppm)	CO (ppm)	Gas Flow Rate (l/hr)	Gas screening value (l/hr)	
								CO ₂	CH ₄
28.09.11	1020	1.4	19.9	<0.1	<1.0	<1.0	0.0	0.0	0.0
03.10.11	1004	0.9	19.5	<0.1	<1.0	<1.0	0.0	0.0	0.0
13.10.11	1027	1.0	20.0	0.1	<1.0	<1.0	0.4	0.004	0.0004
19.10.11	1011	1.3	20.3	0.1	<1.0	<1.0	0.0	0.0	0.0
25.10.11	992	1.7	19.9	<0.1	<1.0	<1.0	0.0	0.0	0.0
08.11.11	1011	1.3	20.3	0.1	<1.0	<1.0	0.0	0.0	0.0
24.11.11	1018	0.9	19.8	<0.1	<1.0	<1.0	0.0	0.0	0.0
PBBH06									
Date	Atmospheric pressure (mbars)	CO ₂ (%v/v)	O ₂ (%v/v)	CH ₄ (%v/v)	H ₂ S (ppm)	CO (ppm)	Gas Flow Rate (l/hr)	Gas screening value (l/hr)	
								CO ₂	CH ₄
28.09.11	1020	3.8	18.5	0.1	<1.0	<1.0	0.0	0.0	0.0
03.10.11	1004	2.1	18.3	<0.1	<1.0	<1.0	0.0	0.0	0.0
13.10.11	1027	2.9	18.9	0.1	<1.0	<1.0	0.1	0.0029	0.0001
19.10.11	1011	4.4	17.8	<0.1	<1.0	<1.0	0.0	0.0	0.0
25.10.11	992	5.2	17.3	<0.1	<1.0	<1.0	0.0	0.0	0.0
08.11.11	1011	4.4	17.8	<1.0	<1.0	<1.0	0.1	0.0044	0.0
24.11.11	1018	5.7	17.0	<0.1	<1.0	<1.0	0.0	0.0	0.0
PBRBH02 (19mm)									
Date	Atmospheric pressure (mbars)	CO ₂ (%v/v)	O ₂ (%v/v)	CH ₄ (%v/v)	H ₂ S (ppm)	CO (ppm)	Gas Flow Rate (l/hr)	Gas screening value (l/hr)	
								CO ₂	CH ₄
28.09.11	1020	<0.1	21.2	<0.1	<1.0	<1.0	0.0	0.0	0.0
03.10.11	1004	<0.1	21.0	<0.1	<1.0	<1.0	0.0	0.0	0.0
13.10.11	1026	<0.1	20.6	<0.1	<1.0	<1.0	0.0	0.0	0.0
19.10.11	1011	<0.1	21.1	<0.1	<1.0	<1.0	0.0	0.0	0.0
25.10.11	992	<0.1	2.9	<0.1	<1.0	<1.0	0.0	0.0	0.0
08.11.11	1011	0.1	21.1	<0.1	<1.0	<1.0	0.0	0.0	0.0
24.11.11	1018	<0.1	21.1	<0.1	<1.0	<1.0	0.0	0.0	0.0

Notes: Calculated in accordance with current guidance (CIRIA C665: 2007 and BS 8450:2007). ND: None Detected.

Table 5a: Groundwater Observations during Fieldwork

Exploratory Hole	Water Strike Level*		After 20 mins	Remarks
	Stratum	Depth (m bgl)	Depth (m bgl)	
CBH1	Made Ground	3.50	3.57-	Slight inflow
CBH2	Made Ground	3.50	-	Damp
CBH3	Made Ground	3.70	3.58	Slow inflow
CWS1B		3.10	3.00	Slight inflow
CWS5	Glacial Clay	4.04	4.04	Slight inflow
TT2	Glacial Clay	2.80		Slight inflow
TT3	Made Ground	3.00		Moderate inflow
TT3	Glacial Clay	4.40		Slow inflow
TT5	Glacial Clay	3.00		Slight inflow
CBH1		9.14*		
CBH4	-	2.16*		
CBH9		14.1*		
CBH10		7.14*		
* Standing water level in rotary hole at the end of drilling.				

Table 5b: Groundwater Monitoring Results

Cundall Installations

Date	BH No		CBH1	CBH2	CBH4	CBH7	CBH9	CBH10
	Pipe type*		G (50mm)	G (50mm)	G (50mm)	G (50mm)	G (50mm)	G (50mm)
	Response Zone		Made Ground/ Glacial Clay	Made Ground	Made Ground/ Glacial Clay	Made Ground	Sandstone	Made Ground/ Glacial Clay
	Depth	m bgl	6.00	3.30	6.00	3.70	18.50	6.00
22.09.11	GW Depth	m bgl (mAOD)		2.52 (5.15)				
23.09.11	GW Depth	m bgl (mAOD)		2.52 (5.15)				
26.09.11	GW Depth	m bgl (mAOD)		2.52 (5.15)		3.34 (7.65)		
27.09.11	GW Depth	m bgl (mAOD)	3.23 (3.98)	2.52 (5.15)		3.34 (7.65)		
28/29.09.11	GW Depth	m bgl (mAOD)	3.26 (3.95)	2.52 (5.15)	2.62 (6.64)	3.32 (7.67)		
03.10.11	GW Depth	m bgl (mAOD)	3.24 (3.97)	2.52 (5.15)	2.61 (6.64)	3.33 (7.66)	4.05 (6.50)	3.24 (7.78)
13.10.11	GW Depth	m bgl (mAOD)	3.31 (3.90)	2.55 (5.12)	2.00 (7.25)	3.42 (7.57)	4.06 (6.49)	2.79 (8.23)
19.10.11	GW Depth	m bgl (mAOD)	3.31 (3.90)	2.54 (5.13)	1.97 (7.28)	3.41 (7.58)	4.00 (6.55)	2.60 (8.42)
25.10.11	GW Depth	m bgl (mAOD)	3.31 (3.90)	2.55 (5.12)	1.98 (7.27)	3.37 (7.62)	3.97 (6.58)	2.48 (8.54)
08.11.11	GW Depth	m bgl (mAOD)	3.32 (3.89)	2.58 (5.09)	2.04 (7.21)	3.44 (7.55)	3.90 (6.65)	2.33 (8.69)
24.11.11	GW Depth	m bgl (mAOD)	3.35 (3.86)	2.55 (5.12)	2.04 (7.21)	3.49 (7.50)	3.93 (6.62)	2.25 (8.77)

PB Installations

Date	BH No		PBBH4A	PBBH2	PBRBH2	PBRBH2	PBBH1	PBBH6
	Pipe type*		G (50mm)	G (50mm)	G (50mm)	P(19mm)	P(19mm)	G (50mm)
	Response Zone		Made Ground	Made Ground	Made Ground	Sandstone	Glacial Clay	Made Ground
	Depth	(m bgl)	NR	4.25	3.95	5.83	4.35	3.00
28.09.11	GW Depth	(m bgl)	NR	3.85	2.82	2.88	4.30	2.99
03.10.11	GW Depth	(m bgl)	NR	3.85	2.82	2.87	4.34	2.98
13.10.11	GW Depth	(m bgl)	NR	3.85	2.82	Blocked	dry	dry
19.10.11	GW Depth	(m bgl)	NR	3.86	2.85	Blocked	3.12	dry
25.10.11	GW Depth	(m bgl)	NR	3.86	2.83	Blocked	1.88	dry
08.11.11	GW Depth	(m bgl)	NR	3.80	2.85	Blocked	3.74	dry
24.11.11	GW Depth	(m bgl)	NR	3.88	2.83	Blocked	3.08	Dry
	Location							
Date	BH No		PBBH5	PBBH5	PBRBH1A	PBRBH1A		
	Pipe type*		G (50mm)	P(19mm)	G (50mm)	P(19mm)		
	Response Zone		Made Ground	Sandstone	Sandstone	Sandstone		
	Depth	(m bgl)	3.00	NR-	NR	NR		
28.09.11	GW Depth	(m bgl)	2.21	Blocked	NR	NR		
03.10.11	GW Depth	(m bgl)	2.20	Blocked	NR	NR		
13.10.11	GW Depth	(m bgl)	2.15	Blocked	NR	NR		
19.10.11	GW Depth	(m bgl)	2.06	Blocked	NR	NR		
25.11.11	GW Depth	(m bgl)	2.04	Blocked	NR	NR		
08.11.11	GW Depth	(m bgl)	2.00	Blocked	NR	NR		
24.11.11	GW Depth	(m bgl)	2.01	Blocked	NR	NR		

Note: NR – not recorded due to parked cars/locked compound at the time of visit.

Table 6: Summary of Compaction Test Results

Sample No	Natural moisture content	Maximum dry density (MDD)	Optimum moisture content (OMC)	OMC +/- 2%	Sample description **
	(%)	(Mg/m ³)	(%)	(%)	
Granular Made Ground					
CWS12 (0.5 -1.0)	11	1.69	19	17 - 21	Gravelly sand with occasional clay pockets
HTP4 (0.5-1.0)	15	1.71	18	16 - 20	Slightly gravelly sand
HTP5 (0.5-1.0)	10	1.84	13	11 - 15	Gravelly sand with low cobble content
Cohesive Made Ground					
CWS1 (0.3-1.0)	9	1.82	11	9 - 13	Slightly sandy gravelly clay
CWS4 (0.5-1.0)	12	1.76	16	14 – 18	Slightly sandy gravelly clay with low cobble content
CWS6 (0.5-1.0)	11	1.77	15	13 - 17	Slightly sandy gravelly clay with low cobble content
CWS11 (0.5-1.0)	9	1.84	11	9 - 13	Slightly sandy gravelly clay with low cobble content
HTP1 (0.2-0.5)	16	1.72	18	16 - 20	Slightly sandy slightly gravelly clay
HTP1 (0.7-1.0)	15	1.83	13	11 - 15	Slightly gravelly clay
HTP3 (0.5-1.0)	15	1.83	14	12 - 16	Slightly sandy gravelly clay

Table 7a: Calorific Value Test Results (Dunelm, 2009)

Borehole number	Soil Description	Sample depth (m)	Calorific value (kJ/kg)
MBH1	Made Ground: Very gravelly sand with ash	0.8	3325
MBH2	Made Ground: Sandy gravel with ash	0.6	5343
TP2	Made Ground: Sandy gravel with ash	0.2	630
TP8	Made Ground: Clayey very gravelly sand with ash	0.5	531

Table 7b: Calorific Value Test Results (PB, 2009)

Borehole number	Soil Description	Sample depth (m)	Calorific value (kJ/kg)
TSBH2	Made Ground: Gravelly sand	0.25	710
TSBH4A	Made Ground: Gravelly sand	0.3	850
TSRBH2	Made Ground: Clayey sandy gravel	0.5	3930
TSWS2	Made Ground: Clayey gravelly sand	0.3	1030
TSWS8	Made Ground: Gravelly sand	0.3	970
TSWS9	Made Ground: Clayey gravelly sand	0.3	350
TSWS9	Made Ground: Gravelly sand	1.0	540
TSWS10	Made Ground: Gravelly sand	0.4	1610

Note: Only results within the site boundary are included in the table.

Table 7c: Calorific Value Test Results (Current Investigation)

Borehole number	Soil Description	Sample depth (m)	Calorific value (MJ/kg)
CBH4	Made Ground: Sandy gravelly clay with some interbeds/pockets of gravel size ash	1.0	<1.0
CBH7	Made Ground: Sandy gravelly clay with some sand size ash	0.5	<1.0
CWS6	Made Ground: Silty/clayey very gravelly sand with sand size ash	0.5	<1.0
CWS7	Made Ground: Clayey very sandy gravel with some sand size ash	1.0	1.0
CWS12	Made Ground: Sandy gravelly clay	1.0	1.1

Table 8: In Situ CBR Test Results

CBR Test Location	Soil Description	Depth (m)	Equivalent CBR Value (%)¹
CBR1	Made Ground	0.1 - 0.3	6
		0.5 - 0.8	>15
CBR2	Made Ground	0.1 - 0.3	9
		0.5 - 0.8	>15
CBR2A	Made Ground	0.1 - 0.3	>15
		0.5 - 0.8	>15
CBR3	Made Ground	0.1 - 0.3	>15
		0.5 - 0.8	>15
CBR3A	Made Ground	0.1 - 0.3	>15
		0.5 - 0.8	>15
CBR4	Made Ground	0.1 - 0.3	>15
		0.5 - 0.8	>15
CBR4A	Made Ground	0.1 - 0.3	>15
		0.5 - 0.8	>15
CBR5	Made Ground	0.1 - 0.3	>15
		0.5 - 0.8	>15
CBR6	Made Ground	0.1 - 0.3	>15
		0.5 - 0.8	13
CBR7	Made Ground	0.1 - 0.3	>15
		0.5 - 0.8	13
CBR8	Made Ground	0.1 - 0.3	>15
		0.5 - 0.8	>15
CBR9	Made Ground	0.1 - 0.3	>15
		0.5 - 0.8	>15
CBR10	Made Ground	0.1 - 0.3	>15
		0.5 - 0.8	>15
CBR11A	Made Ground	0.1 - 0.3	>15
		0.5 - 0.8	>15
CBR12	Made Ground	0.1 - 0.3	9
		0.5 - 0.8	>15

Notes: Equivalent CBR value has been calculated from Panda dynamic probe results, average of values between 0.0 and 0.3m and 0.5 to 0.8m. See AEG factual report for probe results.

Table 9a: Summary Results of Chemical Tests on Soils and Tier 1 Assessment for 'Residential' Land Use (Based on Dunelm 2009 Test Results)

Contaminant	Units	Test Results Range	Mean Value Test US ₉₅	No. of Tests	Threshold Value for 'Residential' Land Use	No of values above Threshold	Location of samples above threshold	Does US ₉₅ > Threshold?
Metals and pH								
pH	pH units	7.6 – 11.4	--	31	N/A	N/A	--	--
Arsenic	mg/kg	2 – 111	23.79	31	32 ¹	2	MBH2(0.6m), TP25(0.5m)	NO
Boron (water soluble)	mg/kg	0.3 – 2.8	--	27	291 ²	--	--	--
Cadmium	mg/kg	<0.2 – 0.7	--	31	10 ¹	--	--	--
Chromium (total)	mg/kg	3 – 34	--	31	N/A	--	--	--
Copper	mg/kg	10 – 1217	--	31	2330 ²	--	--	--
Lead	mg/kg	12 – 2667	484.13	31	342 ³	4	MBH2(0.6m), MBH4(0.5m), BH4(1m), TP8(0.5m)	YES
Mercury	mg/kg	<0.58 – 1.5	0.59	31	1 ¹	1	BH4(1m)	NO
Nickel	mg/kg	3 – 46	--	31	130 ¹	--	--	--
Selenium	mg/kg	<0.3 – 0.7	--	31	350 ¹	--	--	--
Zinc	mg/kg	17 – 338	--	31	3750 ²	--	--	--
Cyanide (total)	mg/kg	<2	--	4	34 ³	--	--	--
PAHs								
PAH (total USEPA 16)	mg/kg	<5 – 35	--	12	N/A	N/A	--	--
Acenaphthylene	mg/kg	<0.1 – 0.2	--	12	850 ²	--	--	--
Acenaphthene	mg/kg	<0.1 – 0.4	--	12	1000 ²	--	--	--
Anthracene	mg/kg	<0.1 – 1.4	--	12	9200 ²	--	--	--
Benzo(a)anthracene	mg/kg	<0.1 – 3.2	--	12	5.9 ²	--	--	--
Benzo(a)pyrene	mg/kg	<0.1 – 2.3	2.17	12	1.0 ²	1	TP28(0.2m)	YES
Benzo(b)fluoranthene	mg/kg	<0.1 – 2.8	--	12	7.0 ²	--	--	--
Benzo(ghi)perylene	mg/kg	<0.1 – 1.5	--	12	47 ²	--	--	--
Benzo(k)fluoranthene	mg/kg	<0.1 – 1.3	--	12	10 ²	--	--	--
Chrysene	mg/kg	<0.1 – 2.7	--	12	9.3 ²	--	--	--
Dibenzo(ah)anthracene	mg/kg	<0.1 – 0.3	--	12	0.9 ²	--	--	--
Fluorene	mg/kg	<0.1 – 0.8	--	12	780 ²	--	--	--
Fluoranthene	mg/kg	<0.1 – 6.6	--	12	670 ²	--	--	--
Indeno(123cd)pyrene	mg/kg	<0.1 – 1.6	--	12	4.2 ²	--	--	--
Naphthalene	mg/kg	<0.1 – 0.3	--	12	8.7 ²	--	--	--
Phenanthrene	mg/kg	<0.1 – 5.7	--	12	380 ²	--	--	--
Pyrene	mg/kg	<0.1 – 8.0	--	12	1600 ²	--	--	--

Table 9a: Summary Results of Chemical Tests on Soils and Tier 1 Assessment for 'Residential' Land Use (Dunelm 2009 Test Results) (continued)

Contaminant	Units	Test Results Range	Mean Value Test US ₉₅	No. of Tests	Threshold Value for 'Residential' Land Use	No of values above Threshold	Location of samples above threshold	Does US ₉₅ > Threshold?
TPHs								
TPH Aliphatic C5-C6	mg/kg	<0.1	--	9	110 ²	--	--	--
TPH Aliphatic C6-C8	mg/kg	<0.1	--	9	370 ²	--	--	--
TPH Aliphatic C8-C10	mg/kg	<0.1	--	9	110 ²	--	--	--
TPH Aliphatic C10-C12	mg/kg	<1 – 26	--	9	540 ²	--	--	--
TPH Aliphatic C12-C16	mg/kg	<1 – 203	--	9	3000 ²	--	--	--
TPH Aliphatic C16-C35	mg/kg	<2 – 5938	--	9	76000 ²	--	--	--
TPH Aromatic C5-C7	mg/kg	<0.01	--	9	280 ²	--	--	--
TPH Aromatic C7-C8	mg/kg	<0.01	--	9	611 ²	--	--	--
TPH Aromatic C8-C10	mg/kg	<0.01	--	9	151 ²	--	--	--
TPH Aromatic C10-C12	mg/kg	<1	--	9	346 ²	--	--	--
TPH Aromatic C12-C16	mg/kg	<1 – 1	--	9	593 ²	--	--	--
TPH Aromatic C16-C21	mg/kg	<1 – 2	--	9	770 ²	--	--	--
TPH Aromatic C21-C35	mg/kg	<1 – 2	--	9	1230 ²	--	--	--
TPH (C5-C10)	mg/kg	<1	--	5	N/A	N/A	--	--
TPH (C10-C28)	mg/kg	51 – 316	--	5	N/A	N/A	--	--
TPH (C28-C40)	mg/kg	<10 – 820	--	5	N/A	N/A	--	--
Others								
Phenol	mg/kg	<0.5 – 1.0	--	4	420 ¹	--	--	--
Sulphate (as SO ₄)	mg/l	29 – 1789	--	31	N/A	N/A	--	--
Asbestos	--	None	--	11	Presence	--	--	--

Notes: N/A – No threshold value exists. 1 – Refers to CLEA Soil Guideline Values (SGVs) for 'Residential' land use published in accordance with the CLEA guidance. 2 – Refers to the LQM/CIEH Generic Assessment Criteria (GACs) for 'Residential' land use published in accordance with the CLEA guidance. 3 – Refers to the latest ATRISK Soil Screening Values (SSVs) for 'Residential with the consumption of homegrown produce' land use published in accordance with the CLEA guidance. Mercury concentrations have been assessed based on the CLEA SGV for elemental mercury (conservative).

Table 9b: Summary Results of Chemical Tests on Soils and Tier 1 Assessment for 'Residential' Land Use (Based on PB 2009 Test Results)

Contaminant	Units	Test Results Range	Mean Value Test US ₉₅	No. of Tests	Threshold Value for 'Residential' Land Use	No of values above Threshold	Location of samples above threshold	Does US ₉₅ > Threshold?
Metals and pH								
pH	pH units	7.8 – 11.6	--	15	N/A	N/A	--	--
Arsenic	mg/kg	3.5 – 24.9	--	15	32 ¹	--	--	--
Boron (water soluble)	mg/kg	<0.5 – 2.2	--	15	291 ²	--	--	--
Cadmium	mg/kg	<0.1 – 0.38	--	15	10 ¹	--	--	--
Chromium (total)	mg/kg	6.6 – 39	--	15	N/A	--	--	--
Copper	mg/kg	13.3 – 105.8	--	15	2330 ²	--	--	--
Lead	mg/kg	14.8 - 1810	NS	15	342 ³	1	TSWS10(2m)	NS
Mercury	mg/kg	<0.1 – 0.34	--	15	1 ¹	--	--	--
Nickel	mg/kg	8.5 – 47.4	--	15	130 ¹	--	--	--
Selenium	mg/kg	<0.5 – 1.6	--	15	350 ¹	--	--	--
Zinc	mg/kg	21.5 – 265.2	--	15	3750 ²	--	--	--
Cyanide (total)	mg/kg	<0.5 – <0.6	--	5	34 ³	--	--	--
Barium	mg/kg	76 – 1380	--	15	N/A	--	--	--
Beryllium	mg/kg	<1 – 5	--	15	51 ²	--	--	--
Lithium	mg/kg	56 – 333	--	15	N/A	--	--	--
Vanadium	mg/kg	12.6 – 127.4	NS	15	75 ²	2	TSRBH2(0.5m), TSWS10(2m)	NS
Tributyltin	mg/kg	<0.02	--	5	N/A	--	--	--
PAHs								
PAH (total USEPA 16)	mg/kg	<1.39 – 755.67	--	12	N/A	--	--	--
Acenaphthylene	mg/kg	<0.09 – 1.02	--	12	850 ²	--	--	--
Acenaphthene	mg/kg	<0.09 – 6.99	--	12	1000 ²	--	--	--
Anthracene	mg/kg	<0.09 – 26.92	--	12	9200 ²	--	--	--
Benzo(a)anthracene	mg/kg	<0.09 – 80.36	NS	12	5.9 ²	4	TSBH4A, TSWS (2, 8, 9)	NS
Benzo(a)pyrene	mg/kg	<0.09 – 58.16	NS	12	1.0 ²	6	TSBH2, TSBH4A, TSWS (2, 8, 9, 10)	NS
Benzo(b)fluoranthene	mg/kg	<0.09 – 77.76	NS	12	7.0 ²	3	TSBH4A, TSWS2, TSWS9	NS
Benzo(ghi)perylene	mg/kg	<0.09 – 26.62	--	12	47 ²	--	--	--
Benzo(k)fluoranthene	mg/kg	<0.09 – 27.51	NS	12	10 ²	1	TSBH4A	NS
Chrysene	mg/kg	<0.09 – 72.31	NS	12	9.3 ²	2	TSBH4A, TSWS2,	NS
Dibenzo(ah)anthracene	mg/kg	<0.09 – 10.7	NS	12	0.9 ²	4	TSBH4A, TSWS (2, 8, 9)	NS
Fluorene	mg/kg	<0.09 – 7.97	--	12	780 ²	--	--	--
Fluoranthene	mg/kg	<0.09 – 151.02	--	12	670 ²	--	--	--
Indeno(123cd)pyrene	mg/kg	<0.09 – 35	NS	12	4.2 ²	3	TSBH4A, TSWS2, TSWS8	NS
Naphthalene	mg/kg	<0.09 – 0.7	--	12	8.7 ²	--	--	--
Phenanthrene	mg/kg	<0.09 – 66.44	--	12	380 ²	--	--	--
Pyrene	mg/kg	<0.09 – 106.42	--	12	1600 ²	--	--	--

Table 9b: Summary Results of Chemical Tests on Soils and Tier 1 Assessment for 'Residential' Land Use (Based on PB 2009 Test Results) (continued)

Contaminant	Units	Test Results Range	Mean Value Test US ₉₅	No. of Tests	Threshold Value for 'Residential' Land Use	No of values above Threshold	Location of samples above threshold	Does US ₉₅ > Threshold?
TPHs								
TPH Aliphatic C8-C10	mg/kg	<4 – <5	--	7	110 ²	--	--	--
TPH Aliphatic C10-C12	mg/kg	<4 – <5	--	7	540 ²	--	--	--
TPH Aliphatic C12-C16	mg/kg	<4 – 40.5	--	7	3000 ²	--	--	--
TPH Aliphatic C16-C35	mg/kg	<28.9 – 980	--	7	76000 ²	--	--	--
TPH Aromatic C8-C10	mg/kg	<4 – 21.8	--	7	151 ²	--	--	--
TPH Aromatic C10-C12	mg/kg	<4 – 7.96	--	7	346 ²	--	--	--
TPH Aromatic C12-C16	mg/kg	<4 – 72.9	--	7	593 ²	--	--	--
TPH Aromatic C16-C21	mg/kg	12.9 – 662	--	7	770 ²	--	--	--
TPH Aromatic C21-C35	mg/kg	84.8 – 3590	NS	7	1230 ²	1	TSBH4A(0.3m)	NS
BTEX								
Benzene	mg/kg	<0.01	--	7	0.33 ¹	--	--	--
Toluene	mg/kg	<0.01	--	7	610 ¹	--	--	--
Ethylbenzene	mg/kg	<0.01	--	7	350 ¹	--	--	--
Xylene	mg/kg	<0.01	--	7	230 ¹	--	--	--
Others								
Phenol	mg/kg	<0.6	--	7	420 ¹	--	--	--
Sulphate (as SO ₄)	mg/l	64 – 13000	--	12	N/A	N/A	N/A	--
Asbestos	--	None	--	9	Presence	--	--	--
Soil Organic Matter (SOM)	%	2.61 – 20.4	--	9	N/A	N/A	N/A	--
SVOCs								
1,2,4-Trichlorobenzene	mg/kg	<2.8 – <28	--	7	11 ²	?	?	--
1,2-Dichlorobenzene	mg/kg	<2.8 – <28	--	7	91 ²	--	--	--
1,3-Dichlorobenzene	mg/kg	<2.8 – <28	--	7	1.7 ²	?	?	--
1,4-Dichlorobenzene	mg/kg	<2.8 – <28	--	7	167 ²	--	--	--
Hexachlorobenzene	mg/kg	<2.8 – <28	--	7	1.4 ²	?	?	--

Notes: N/A – No threshold value exists. NS – Due to limited data no statistical analysis carried out. 1 – Refers to CLEA Soil Guideline Values (SGVs) for 'Residential' land use published in accordance with the CLEA guidance. 2 – Refers to the LQM/CIEH Generic Assessment Criteria (GACs) for 'Residential' land use published in accordance with the CLEA guidance. 3 – Refers to the latest ATRISK Soil Screening Values (SSVs) for 'Residential with the consumption of homegrown produce' land use published in accordance with the CLEA guidance. Mercury concentrations have been assessed based on the CLEA SGV for elemental mercury (conservative). ? – Exceedance cannot be determined with certainty owing to the laboratory detection limit being greater than the corresponding threshold value.

Table 9c: Summary Results of Chemical Tests on Soils and Tier 1 Assessment for 'Residential' Land Use (Current Investigation)

Contaminant	Units	Test Results Range	Mean Value Test US ₉₅	No. of Tests	Threshold Value for 'Residential' Land Use	No of values above Threshold	Location of samples above threshold	Does US ₉₅ > Threshold?
Metals and pH								
pH	pH units	8.4 – 11.6	--	21	N/A	--	--	--
Arsenic	mg/kg	6.4 – 37	23.79	21	32 ¹	1	CWS5(1.7m)	NO
Boron (water soluble)	mg/kg	<0.1 – 1.5	--	21	291 ²	--	--	--
Cadmium	mg/kg	0.4 – 0.8	--	21	10 ¹	--	--	--
Chromium (III)	mg/kg	<15 – <35	--	21	627 ²	--	--	--
Chromium (VI)	mg/kg	<1.0	--	21	4.3 ²	--	--	--
Copper	mg/kg	27 – 840	--	21	2330 ²	--	--	--
Lead	mg/kg	29 – 1900	484.13	21	342 ³	2	CWS5(1.7m), CWS12(1m)	YES
Mercury	mg/kg	<0.05 – 1.6	0.59	21	1 ¹	1	CWS12(1m)	NO
Nickel	mg/kg	17 – 46	--	21	130 ¹	--	--	--
Selenium	mg/kg	<0.5 – 1.4	--	21	350 ¹	--	--	--
Zinc	mg/kg	30 – 160	--	21	3750 ²	--	--	--
Cyanide (total)	mg/kg	<0.1 – 0.2	--	21	34 ³	--	--	--
Cyanide (free)	mg/kg	<0.1	--	21	34 ³	--	--	--
Thiocyanate	mg/kg	<0.6 – 2.1	--	21	N/A	--	--	--
PAHs								
PAH (total USEPA 16)	mg/kg	<1.6 – 49	--	21	N/A	--	--	--
Acenaphthylene	mg/kg	<0.1 – 1.8	--	21	850 ²	--	--	--
Acenaphthene	mg/kg	<0.1 – 4.3	--	21	1000 ²	--	--	--
Anthracene	mg/kg	<0.1 – 0.8	--	21	9200 ²	--	--	--
Benzo(a)anthracene	mg/kg	<0.1 – 6.5	2.57	21	5.9 ²	1	CBH2(1m)	NO
Benzo(a)pyrene	mg/kg	<0.1 – 8.7	2.17	21	1.0 ²	6	CBH(1,2), CWS(1,7,11), HDP3	YES
Benzo(b)fluoranthene	mg/kg	<0.1 – 4.6	--	21	7.0 ²	--	--	--
Benzo(ghi)perylene	mg/kg	<0.1 – 5.2	--	21	47 ²	--	--	--
Benzo(k)fluoranthene	mg/kg	<0.1 – 1.8	--	21	10 ²	--	--	--
Chrysene	mg/kg	<0.1 – 2.5	--	21	9.3 ²	--	--	--
Dibenzo(ah)anthracene	mg/kg	<0.1 – 3.9	1.17	21	0.9 ²	1	CWS11(0.5m)	YES
Fluorene	mg/kg	<0.1 – 1.7	--	21	780 ²	--	--	--
Fluoranthene	mg/kg	<0.1 – 5.1	--	21	670 ²	--	--	--
Indeno(123cd)pyrene	mg/kg	<0.1 – 8.8	2.86	21	4.2 ²	1	CWS11(0.5m)	NO
Naphthalene	mg/kg	<0.1 – 0.7	--	21	8.7 ²	--	--	--
Phenanthrene	mg/kg	<0.1 – 3.2	--	21	380 ²	--	--	--
Pyrene	mg/kg	<0.1 – 3.6	--	21	1600 ²	--	--	--

Table 9c: Summary Results of Chemical Tests on Soils and Tier 1 Assessment for 'Residential' Land Use (Current Investigation) (continued)

Contaminant	Units	Test Results Range	Mean Value Test US ₉₅	No. of Tests	Threshold Value for 'Residential' Land Use	No of values above Threshold	Location of samples above threshold	Does US ₉₅ > Threshold?
TPHs								
TPH Aliphatic C5-C6	mg/kg	<0.01	--	21	110 ²	--	--	--
TPH Aliphatic C6-C8	mg/kg	<0.01 – 0.04	--	21	370 ²	--	--	--
TPH Aliphatic C8-C10	mg/kg	<0.01 – 0.04	--	21	110 ²	--	--	--
TPH Aliphatic C10-C12	mg/kg	<1.5	--	21	540 ²	--	--	--
TPH Aliphatic C12-C16	mg/kg	<1.2 – 8.2	--	21	3000 ²	--	--	--
TPH Aliphatic C16-C35	mg/kg	<4.9 – 81	--	21	76000 ²	--	--	--
TPH Aromatic C5-C7	mg/kg	<0.01	--	21	280 ²	--	--	--
TPH Aromatic C7-C8	mg/kg	<0.01	--	21	611 ²	--	--	--
TPH Aromatic C8-C10	mg/kg	<0.01 – 0.01	--	21	151 ²	--	--	--
TPH Aromatic C10-C12	mg/kg	<0.9	--	21	346 ²	--	--	--
TPH Aromatic C12-C16	mg/kg	<0.5 – 3.8	--	21	593 ²	--	--	--
TPH Aromatic C16-C21	mg/kg	<0.6 – 24	--	21	770 ²	--	--	--
TPH Aromatic C21-C35	mg/kg	<1.4 – 120	--	21	1230 ²	--	--	--
Others								
Benzene	mg/kg	<0.01	--	21	0.33 ¹	--	--	--
Toluene	mg/kg	<0.01	--	21	610 ¹	--	--	--
Ethylbenzene	mg/kg	<0.01	--	21	350 ¹	--	--	--
Xylene	mg/kg	<0.01 – 0.01	--	21	230 ¹	--	--	--
MTBE		<0.01	--	21	N/A	--	--	--
PCB (sum of 7 congeners)	mg/kg	<0.01	--	8	N/A	--	--	--
Trichloroethylene (TCE)	mg/kg	<0.01	--	8	0.49 ²	--	--	--
Dibutyltin	mg/kg	<1.0	--	8	N/A	--	--	--
Phenol	mg/kg	<0.3 – 1.3	--	21	420 ¹	--	--	--
Soil Organic Matter (SOM)	%	1.6 – 6.6	--	21	N/A	--	--	--
Total Sulphate (as SO ₄)	%	0.05 – 0.2	--	21	N/A	--	--	--
Asbestos	--	Chrysotile	--	11	Presence	1	CBH7(0.5m)	--

Notes:

N/A – No threshold value exists. 1 – Refers to CLEA Soil Guideline Values (SGVs) for 'Residential' land use published in accordance with the CLEA guidance. 2 – Refers to the LQM/CIEH Generic Assessment Criteria (GACs) for 'Residential' land use published in accordance with the CLEA guidance. 3 – Refers to the latest ATRISK Soil Screening Values (SSVs) for 'Residential with the consumption of homegrown produce' land use published in accordance with the CLEA guidance. Mercury concentrations have been assessed based on the CLEA SGV for elemental mercury (conservative).

Table 10: Summary Results of Chemical Tests on Soil Leachate and Tier 1 Assessment (Based on Dunelm 2009 Test Results)

Contaminant	Units	Test Results Range	No of Tests	Threshold Value (DWS)	Threshold Value (EQS-Saltwater)	No of values above Threshold Value	Location of Exceedance
pH	units	7.8 – 8.4	4	N/A	6.0 – 8.5	--	--
Arsenic	ug/l	<1 - 10	4	10	25	--	--
Chromium	ug/l	<3 – 6	4	50	15	--	--
Cadmium	ug/l	<1	4	5	2.5	--	--
Copper	ug/l	6 – 36	4	2000	5	4 (EQS)	BH3, TP2, TP19, TP22
Lead	ug/l	<9 – 11	4	25	25	--	--
Nickel	ug/l	<3 – 10	4	50	30	--	--
Zinc	ug/l	<20	4	5000	10	-- (?)	-- (?)
Mercury	ug/l	<1	4	1	0.3	-- (?)	-- (?)
Selenium	ug/l	<1	4	10	N/A	--	--
Boron	mg/l	<0.03 – 0.43	4	1	7	--	--

Notes:

N/A – No threshold value exists; DWS – UK Drinking Water Standards; EQS (saltwater) – Environmental Quality Standards (Saltwater). ? – Zinc and mercury exceedance of the EQS-saltwater threshold values cannot be determined with certainty because the EQS values are below the corresponding laboratory detection limits.

Table 11a: Summary Results of Chemical Tests on Groundwater (Based on PB 2009 Test Results)

Contaminant	Units	Test Results Range	No of Tests	Threshold Value (DWS)	Threshold Value (EQS-Saltwater)	No of values above Threshold Value	Location of Exceedance
pH	units	7.1 – 7.5	8	N/A	6.0 – 8.5	--	--
Arsenic	ug/l	<1 – 5	8	10	25	--	--
Chromium	ug/l	3 – 5	8	50	15	--	--
Cadmium	ug/l	<0.1 – 0.1	8	5	2.5	--	--
Copper	ug/l	<1 – 5	8	2000	5	--	--
Lead	ug/l	<1 – 7	8	10	25	--	--
Nickel	ug/l	2 – 10	8	50	30	--	--
Zinc	ug/l	<2 – 10	8	5000	10	--	--
Mercury	ug/l	<0.1	8	1	0.3	--	--
Selenium	ug/l	<1 – 18	8	10	N/A	1 (DWS)	TSRBH02
Boron	mg/l	0.09 – 0.28	8	1	7	--	--
Cyanide	ug/l	<20	8	50	N/A	--	--
Phenol	ug/l	<50 – 100	8	0.5	30	3 (EQS and DWS) (?)	TSBH (04, 01, 05) (?)
Chloride	mg/l	68 – 196	8	250	N/A	--	--
PAH (total)	ug/l	<0.04 – <16 ¹	8	0.1 ¹	N/A	2 (DWS) (?)	TSBH02, TSBH04 (?)
Naphthalene	ug/l	<0.01 – 4.77	8	N/A	5	--	--
Benzo(a)pyrene	ug/l	<0.01 – <4	8	0.01	N/A	3 (DWS) (?)	TSBH (05, 02, 04) (?)
TPH (Aqueous Phase)	ug/l	<0.2 – <0.32	8	10	N/A	--	--
Benzene	ug/l	<5	8	1	30	-- (?)	-- (?)
Toluene	ug/l	<5	8	N/A	40	--	--
Ethylbenzene	ug/l	<5	8	N/A	N/A	--	--
Xylenes	ug/l	<5	8	N/A	30	--	--
Calcium	mg/l	130 – 515	8	250	N/A	1 (DWS)	TSBH01
Magnesium	mg/l	16 – 81	8	50	N/A	1 (DWS)	TSBH01
Vanadium	ug/l	<2 – 6	8	N/A	100	--	--
Ammoniacal Nitrogen	mg/l	<0.01 – 1	8	N/A	0.021	1 (EQS)	TSBH01
Nitrate	mg/l	<0.2 – 10.8	8	50	N/A	--	--
Barium	mg/l	0.03 – 0.07	8	1.0	N/A	--	--
Tributyltin	ug/l	<0.02	6	N/A	0.002	?	?
Dibutyltin	ug/l	<0.02	6	N/A	N/A	--	--
Vinyl chloride	ug/l	<1	8	0.5	N/A	?	?
Carbon tetrachloride	ug/l	<1	8	N/A	12	--	--
1,2-Dichloroethane	ug/l	<1	8	3	10	--	--
1,1,2-Trichloroethane	ug/l	<1	8	N/A	300	--	--
Tetrachloroethene	ug/l	<5 – 32	8	10	10	2 (EQS and DWS)	TSRBH02, TSBH04

Notes:

N/A – No threshold value exists. DWS – UK Drinking Water Standards. EQS (saltwater) – Environmental Quality Standards (Saltwater). 1 – The PAH (total) concentrations are based on the sum of the 4 PAHs [benzo(b) fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene and indeno(1,2,3-cd)pyrene].

? – Exceedance cannot be determined with certainty owing to the laboratory detection limit being greater than the corresponding threshold value.

Table 11b: Summary Results of Chemical Tests on Groundwater (Current Investigation)

Contaminant	Units	Test Results Range	No of Tests	Threshold Value (DWS)	Threshold Value (EQS-Saltwater)	No of values above Threshold Value	Location of Exceedance
Metals, pH, Chloride							
pH	units	7.1 – 7.5	8	N/A	6.0 – 8.5	--	--
Arsenic	ug/l	<1 – 4.2	8	10	25	--	--
Chromium	ug/l	<5 – 970	8	50	15	--	--
Cadmium	ug/l	<1 – 97	8	5	2.5	--	--
Copper	ug/l	<1 – 930	8	2000	5	--	--
Lead	ug/l	<4 – 930	8	10	25	--	--
Nickel	ug/l	<10 – 960	8	50	30	1 (DWS, EQS)	CBH04
Zinc	ug/l	<1 – 930	8	5000	10	1 (EQS)	CBH04
Mercury	ug/l	<0.05	8	1	0.3	--	--
Selenium	ug/l	<10 – 84	8	10	N/A	1 (DWS)	CBH04
Boron	mg/l	0.19 – 0.57	8	1	7	--	--
Cyanide	ug/l	<20	8	50	N/A	--	--
Phenol	ug/l	<0.1	8	0.5	30	--	--
Chloride	mg/l	51 – 280	8	250	N/A	2 (DWS)	CBH04, PBRBH02
PAHs							
PAH (total)	ug/l	<0.04 – <0.05 ¹	8	0.1 ¹	N/A	--	--
Naphthalene	ug/l	<0.01 – 0.14	8	N/A	5	--	--
Benzo(a)pyrene	ug/l	<0.01	8	0.01	N/A	--	--
TPHs							
TPH (PRO, C6-C10)	ug/l	<1.0 – 22	8	10	N/A	1 (DWS)	CBH02
TPH (DRO, C10-C24)	ug/l	<10 – 55	8	10	N/A	4 (DWS)	CBH(01,02), PBRBH02
TPH (Mineral Oils)	ug/l	<10 – 99	8	10	N/A	6 (DWS)	CBH(01,02,04,09), PBRBH02
Others							
Ammoniacal Nitrogen	mg/l	0.07 – 4.2	8	N/A	0.021	8 (EQS)	All samples tested
Sulphate	mg/l	260 – 1400	8	250	250	8 (DWS, EQS)	All samples tested
Dibutyltin	ug/l	<1.0	5	N/A	N/A	--	--
Trichloroethylene (TCE)	ug/l	<1 – 3	5	10	10	--	--
SVOCs	ug/l	<1.0	5	N/A	N/A	--	--

Notes:

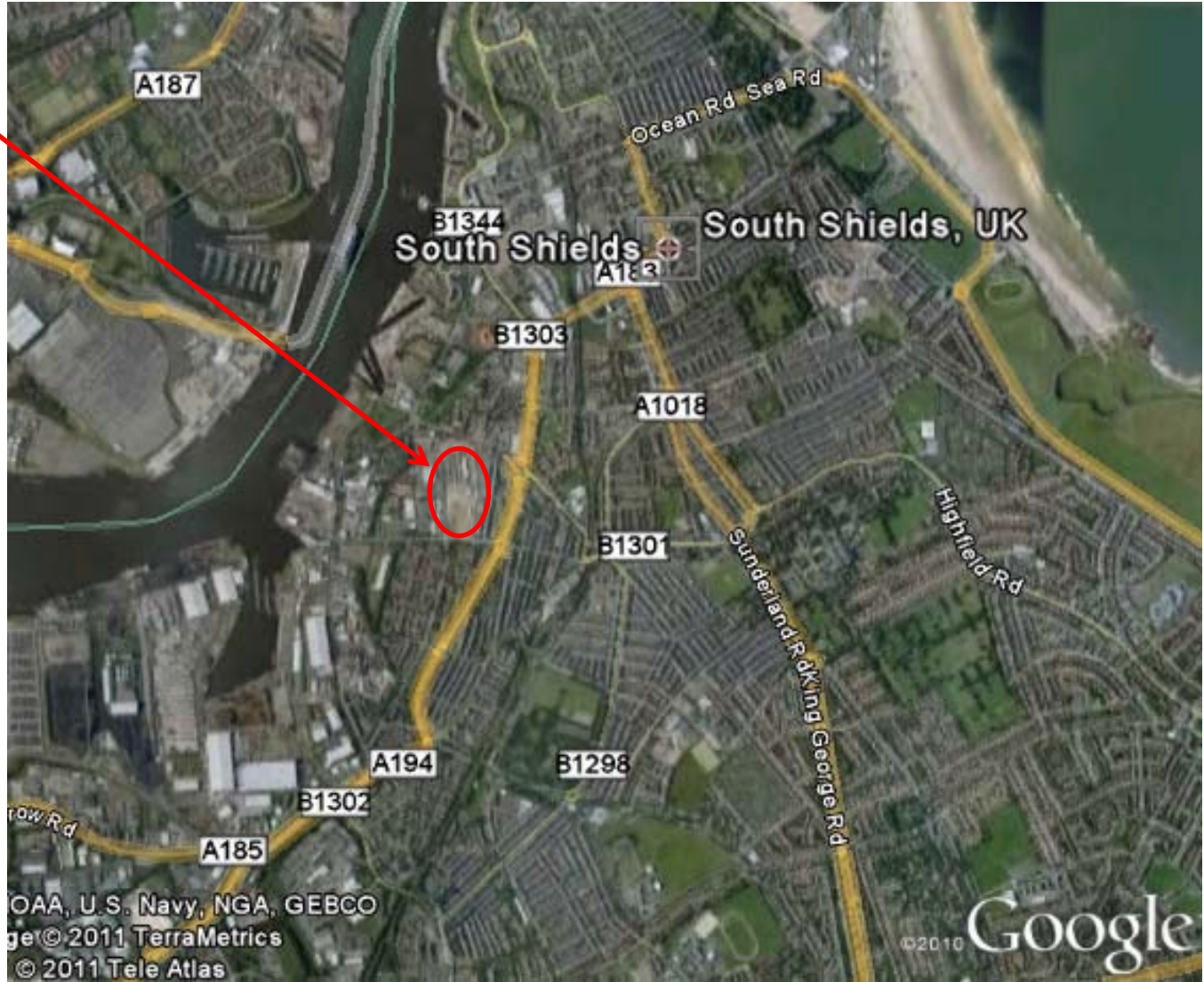
N/A – No threshold value exists. DWS – UK Drinking Water Standards. EQS (saltwater) – Environmental Quality Standards (Saltwater). 1 – The PAH (total) concentrations are based on the sum of the 4 PAHs [benzo(b) fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene and indeno(1,2,3-cd)pyrene].

Table 12: Waste Acceptance Criteria Test Results (Current Investigation)

Sample Location		CWS6	CWS6	CWS11	CWS11	HDP1	HDP3	Landfill waste acceptance criteria for granular wastes		
Sample Depth (m bgl)		0.5	1.0	0.5	1.0	1.0	0.5	Amount leached at L:S 10:1		
								Inert waste landfill	Non-reactive haz. Waste landfill	Hazardous waste landfill
Waste analysis										
Total Organic Carbon	% w/w	1.6	1.7	2.6	0.9	1.4	2.2	3	5	6
Loss on Ignition	% w/w	5.2	5.3	5.9	4.9	3.9	5.8	-	-	10
BTEX	mg/kg	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	6	-	-
PCBs (7 congeners)	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1	-	-
Mineral Oil (C10-C40)	mg/kg	48	57	3100	110	150	210	500	-	-
PAH (total)	mg/kg	2.8	1.9	49	1.7	1.9	10	100	-	-
pH	pH Units	8.9	8.4	10.1	8.7	8.6	9.3	-	>6	-
Acid Neutralisation Capacity (pH4)	mol/kg	1.4	1.3	1.2	<1.0	1.2	<1.0	-	To be evaluated	
Acid Neutralisation Capacity (pH7)	mol/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	To be evaluated	
Eluate analysis BS EN12457-3 Limit values at L:S 10:1 (Amount leached at L:S 10:1)										
Arsenic (As)	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.5	2	25
Barium (Ba)	mg/kg	0.49	0.31	0.20	0.23	0.44	0.49	20	100	300
Cadmium (Cd)	mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	1	5
Chromium (Cr)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	10	70
Copper (Cu)	mg/kg	0.047	0.043	<0.02	<0.02	<0.02	<0.029	2	50	100
Mercury (Hg)	mg/kg	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.01	0.2	2
Molybdenum (Mo)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	10	30
Nickel (Ni)	mg/kg	0.16	0.32	<0.1	0.14	<0.1	<0.1	0.4	10	40
Lead (Pb)	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	10	50
Antimony (Sb)	mg/kg	<0.05	0.067	<0.05	<0.05	<0.05	0.049	0.06	0.7	5
Selenium (Se)	mg/kg	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.1	0.5	7
Zinc (Zn)	mg/kg	0.044	0.029	<0.01	0.012	0.032	<0.01	4	50	200
Chloride (Cl)	mg/kg	<100	<100	<100	<100	<100	<100	800	15000	25000
Fluoride (F)	mg/kg	3.9	4.3	3.4	7.1	4.0	6.0	10	150	500
Sulphate (SO ₄)	mg/kg	713	426	184	395	784	755	1000	20000	50000
Total Dissolved Solids (TDS)	mg/kg	1346	822	452	1044	1552	1140	4000	60000	100000
Phenol Index	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1	-	-
Dissolved Organic Carbon (DOC)	mg/kg	66	73	69	64	64	64	500	800	1000

FIGURES

THE SITE



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*Approximate centre of the site at
NGR 435990E, 566110N*

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South, South Shields

Client South Tyneside Council

Architect

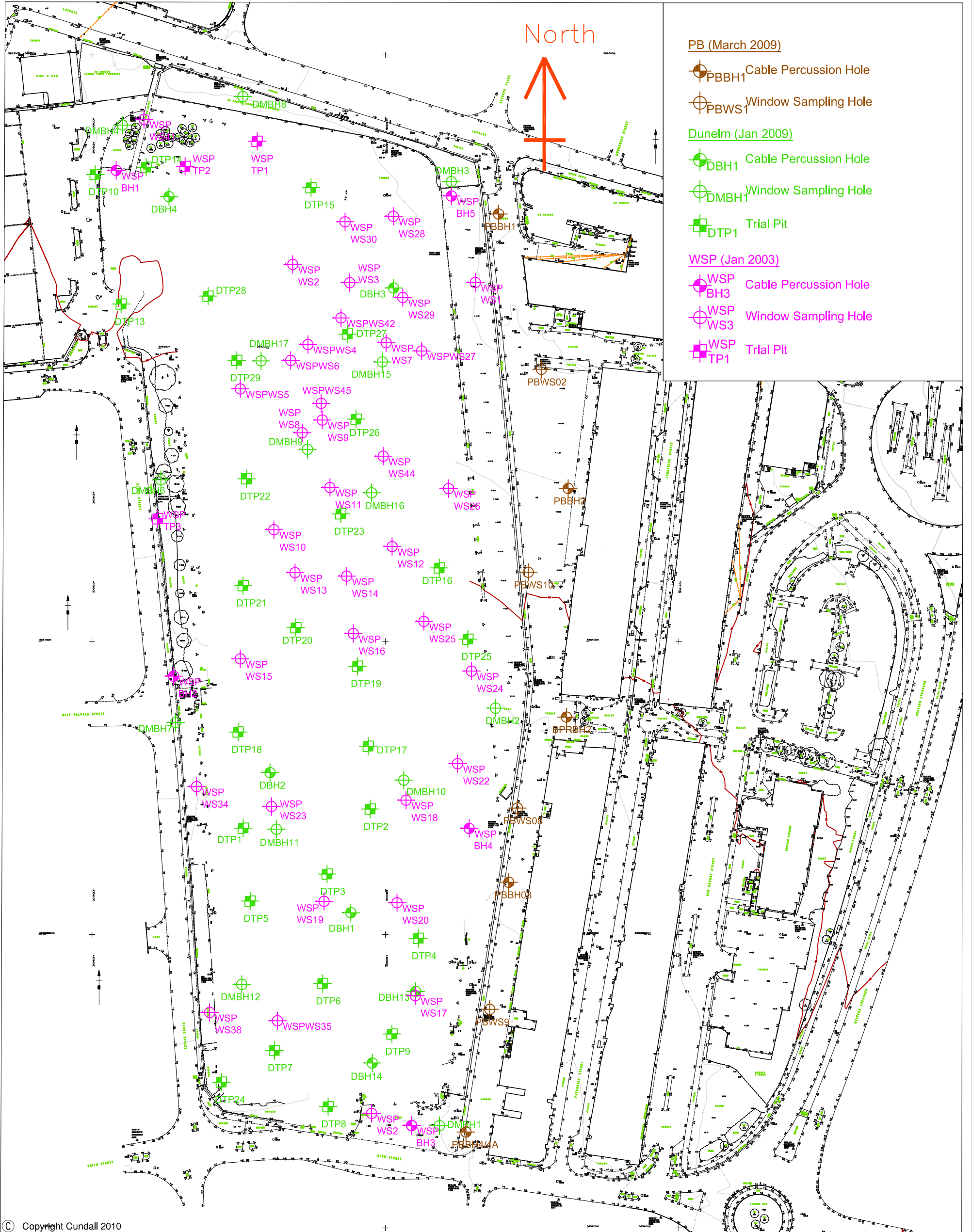
Title Site Location Plan

Stage	Drawing No.	Rev.
-	Figure 1	0

Scale	NTS
Date	24-10-11
Drawn	ED
Checked	YI
Verified	YI

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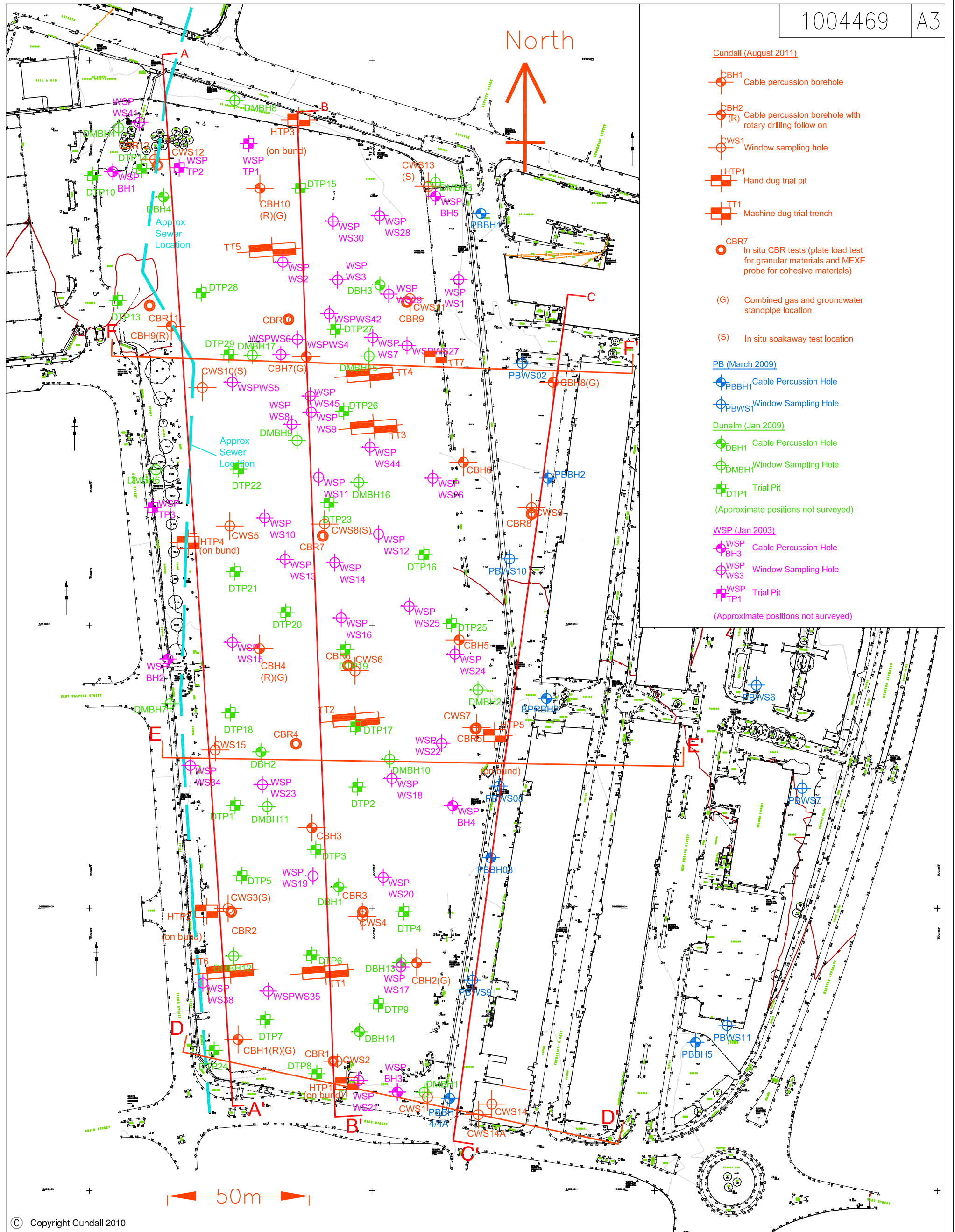
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						Architect				Status		
Issue	Date	Description	By	Chkd	Verfd			Drawing Number	Figure 2	Issue		
0	24.10.11	Revised	ED	YI	YI							
0	22.08.11	For information only	EP	YI	YI							

North



Cundall (August 2011)

- CBH1 Cable percussion borehole
- CBH2 (R) Cable percussion borehole with rotary drilling follow on
- CWS1 Window sampling hole
- HTP1 Hand dug trial pit
- TT1 Machine dug trial trench
- CBR7 In situ CBR tests (plate load test for granular materials and MEXE probe for cohesive materials)
- (G) Combined gas and groundwater standpipe location
- (S) In situ soakaway test location

PB (March 2009)

- PBBH1 Cable Percussion Hole
- PBWS1 Window Sampling Hole

Dunelm (Jan 2009)

- DBH1 Cable Percussion Hole
- DMBH1 Window Sampling Hole
- DTP1 Trial Pit
- (Approximate positions not surveyed)

WSP (Jan 2003)

- WSP BH3 Cable Percussion Hole
- WSP WS3 Window Sampling Hole
- WSP TP1 Trial Pit
- (Approximate positions not surveyed)

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Client			South Tyneside Council			Exploratory Hole Location Plan and Cross Section Locations			Scale 1:1250			
Architect						Drawing Number			Status			
0	10.10.11	For information only	EP	YI	YI	Figure 3			Issue			
Issue	Date	Description	By	Chkd	Verfd							

NOTES

- RTS - Relict Topsoil (? Possible)
- LC - Laminated Glacial Clay (where identified)
- GC - Undifferentiated Glacial Clay
- WGT - Weathered Glacial Till

3.2m Groundwater level (m bgl) (03/10/11) monitored (date)

Groundwater strike during drilling

Hand drawn interface between strata (approximate)

SPT N Value

R Refusal

Note: Existing ground level shown is approximate, not surveyed (except at exploratory locations of current 2011 investigation)

D - Duneim 2009 Investigation

PB - Parsons Brinkerhoff 2009 Investigation

C - Cundall 2011 Investigation

TT - Trial trench (Cundall 2011)

HTP - Hand dug trial pit (Cundall 2011)

YI

Issue	Date	Description	By	Chkd	Verfd
24.10.11	Figure Revised	ED	YI	YI	
10.10.11	For Information	EP	YI	YI	

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Job No. 1004469

Scale NTS

Status

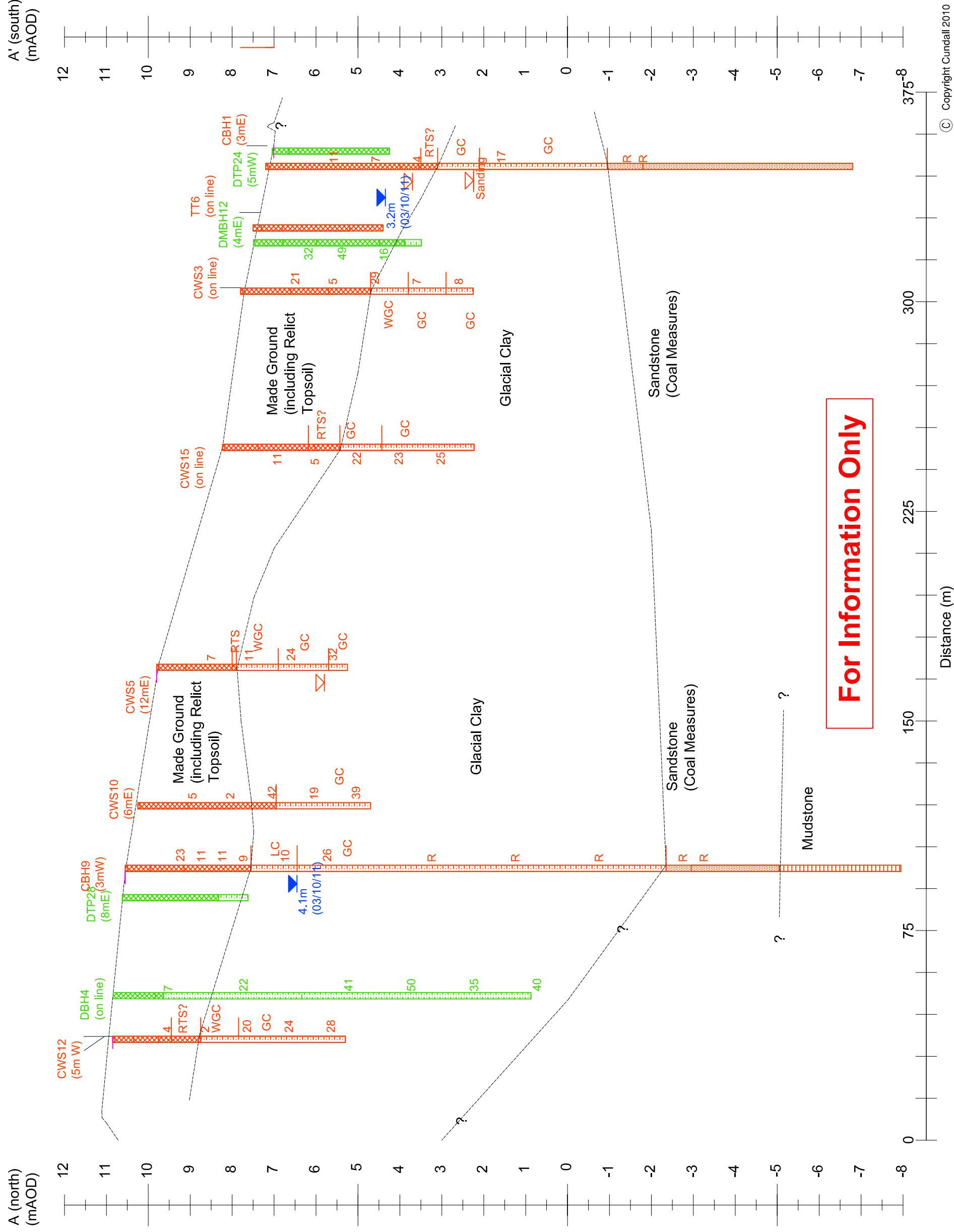
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Title Geotechnical Cross Section A-A'

Drawing Number

Figure 4a

Iss.



NOTES

- RTS - Relict Topsoil (? Possible)
- LC - Laminated Glacial Clay (where identified)
- GC - Undifferentiated Glacial Clay
- WGT - Weathered Glacial Till
- 3.2m Groundwater level (m bgl) (03/10/11) monitored (date)
- Groundwater strike during drilling
- Hand drawn interface between strata (approximate)
- SPT N Value
- R Refusal

Note: Existing ground level shown is approximate, not surveyed (except at exploratory locations of current 2011 investigation)

- D - Dunelm 2009 Investigation
- PB - Parsons Brinkerhoff 2009 Investigation
- C - Cundall 2011 Investigation
- TT - Trial trench (Cundall 2011)
- HTP - Hand dug trial pit (Cundall 2011)

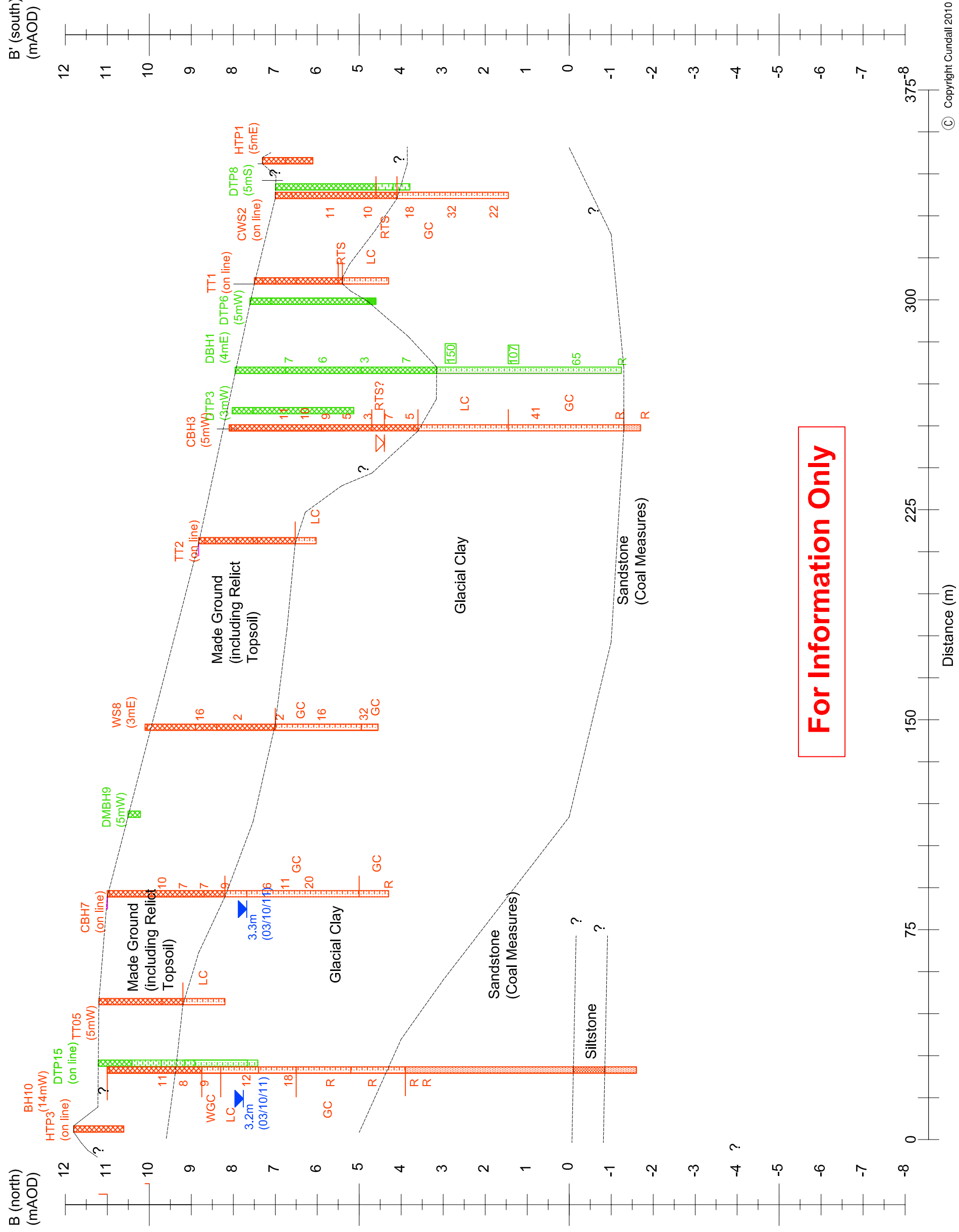
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24.10.11	Figure Revised	ED	YI	YI	YI
10.10.11	For Information	EP	YI	YI	YI

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 Scale NTS
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Title Geotechnical Cross Section B-B'

Drawing Number Figure 4b
 Iss.



NOTES

- RTS - Relict Topsoil (? Possible)
- LC - Laminated Glacial Clay (where identified)
- GC - Undifferentiated Glacial Clay
- WGT - Weathered Glacial Till

3.2m Groundwater level (m bgl) (03/10/11) monitored (date)

Groundwater strike during drilling

Hand drawn interface between strata (approximate)

SPT N Value

R Refusal

Note: Existing ground level shown is approximate, not surveyed (except at exploratory locations of current 2011 investigation)

D - Dunelm 2009 Investigation

PB - Parsons Brinkerhoff 2009 Investigation

C - Cundall 2011 Investigation

TT - Trial trench (Cundall 2011)

HTP - Hand dug trial pit (Cundall 2011)

Issue	Date	Description	By	Chkd	Verfd
24.10.11	Figure Revised	ED	Y1	Y1	Y1
10.10.11	For Information	EP	Y1	Y1	Y1

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Job No. 10044669

Scale NTS

Status

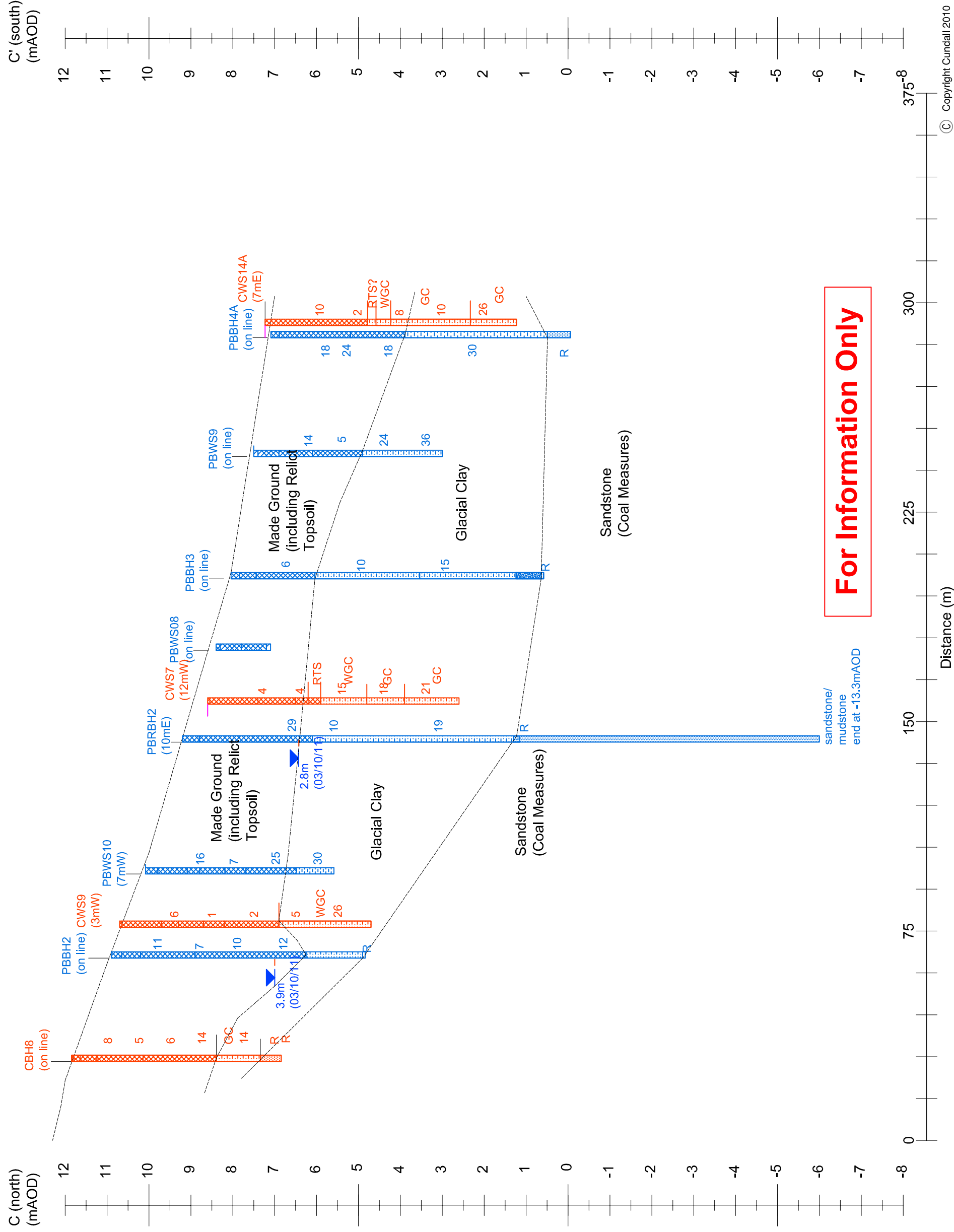
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Title Geotechnical Cross Section C-C'

Drawing Number

Figure 4c



NOTES

- RTS - Relict Topsoil (? Possible)
- LC - Laminated Glacial Clay (where identified)
- GC - Undifferentiated Glacial Clay
- WGT - Weathered Glacial Till
- 3.2m Groundwater level (m bgl) (03/10/11) monitored (date)
- Groundwater strike during drilling

Hand drawn interface between strata (approximate)



R Refusal

Note: Existing ground level shown is approximate, not surveyed (except at exploratory locations of current 2011 investigation)

- D - Dunelm 2009 Investigation
- PB - Parsons Brinkerhoff 2009 Investigation
- C - Cundall 2011 Investigation
- TT - Trial trench (Cundall 2011)
- HTP - Hand dug trial pit (Cundall 2011)

Issue	Date	Description	By	Chkd	Verfd
24.10.11	Figure Revised	ED	YI	YI	YI
10.10.11	For Information	EP	YI	YI	YI

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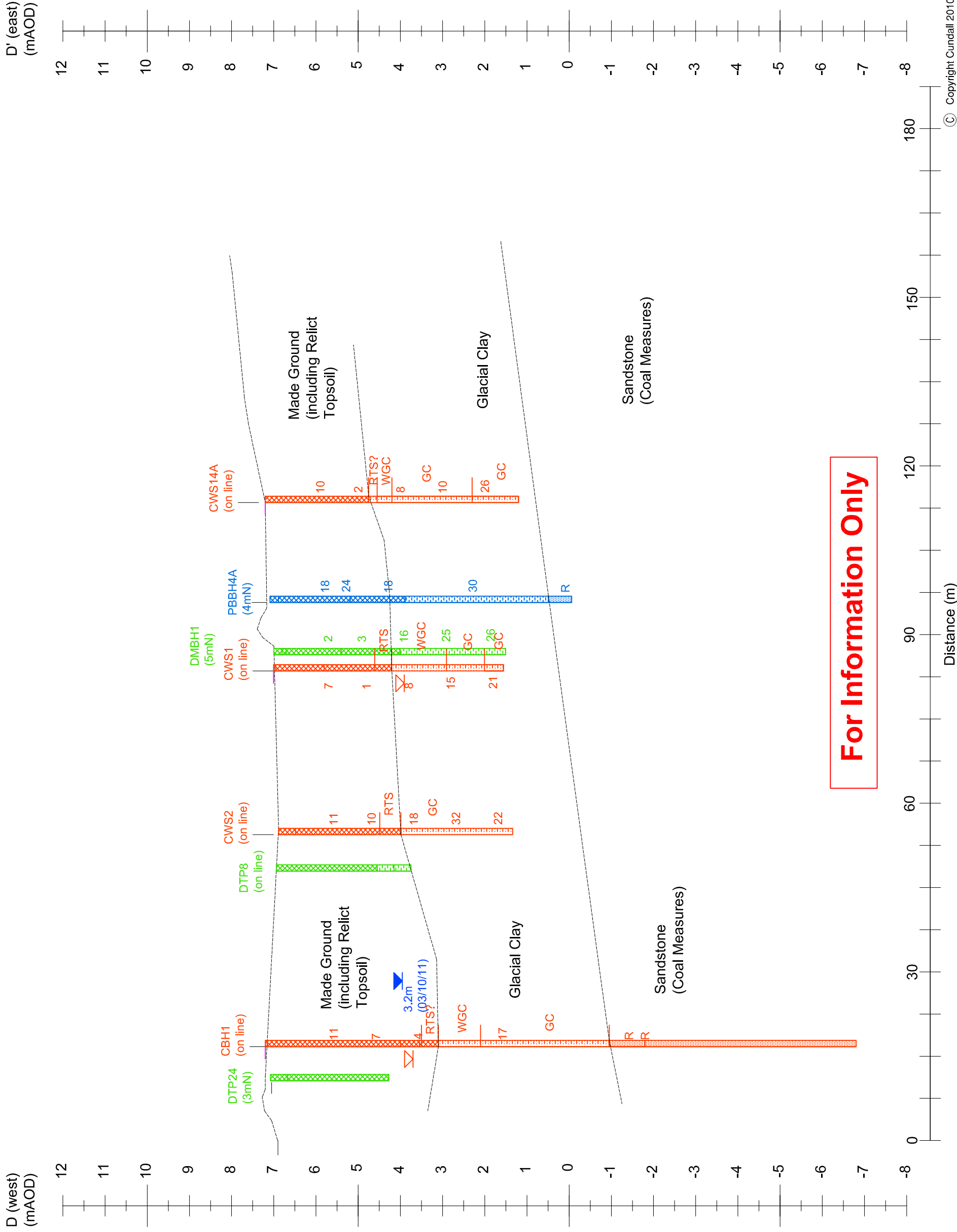
Scale NTS

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Title Geotechnical Cross Section D-D'

Drawing Number
Iss.



NOTES

- RTS - Relict Topsoil (? Possible)
- LC - Laminated Glacial Clay (where identified)
- GC - Undifferentiated Glacial Clay
- WGT - Weathered Glacial Till
- 3.2m Groundwater level (m bgl) (03/10/11) monitored (date)
- Groundwater strike during drilling

----- Hand drawn interface between strata (approximate)

32k SPT N Value

R Refusal

Note: Existing ground level shown is approximate, not surveyed (except at exploratory locations of current 2011 investigation)

- D - Dunelm 2009 Investigation
- PB - Parsons Brinkerhoff 2009 Investigation
- C - Cundall 2011 Investigation
- TT - Trial trench (Cundall 2011)
- HTP - Hand dug trial pit (Cundall 2011)

Issue	Date	Description	By	Chkd	Verfd
24.10.11		Figure Revised	ED	YI	YI
10.10.11		For Information	EP	YI	YI

Project Residential Development
Trinity South, South Shields

Client South Tyneside Council

Architect

Job No. 1004469

Scale NTS

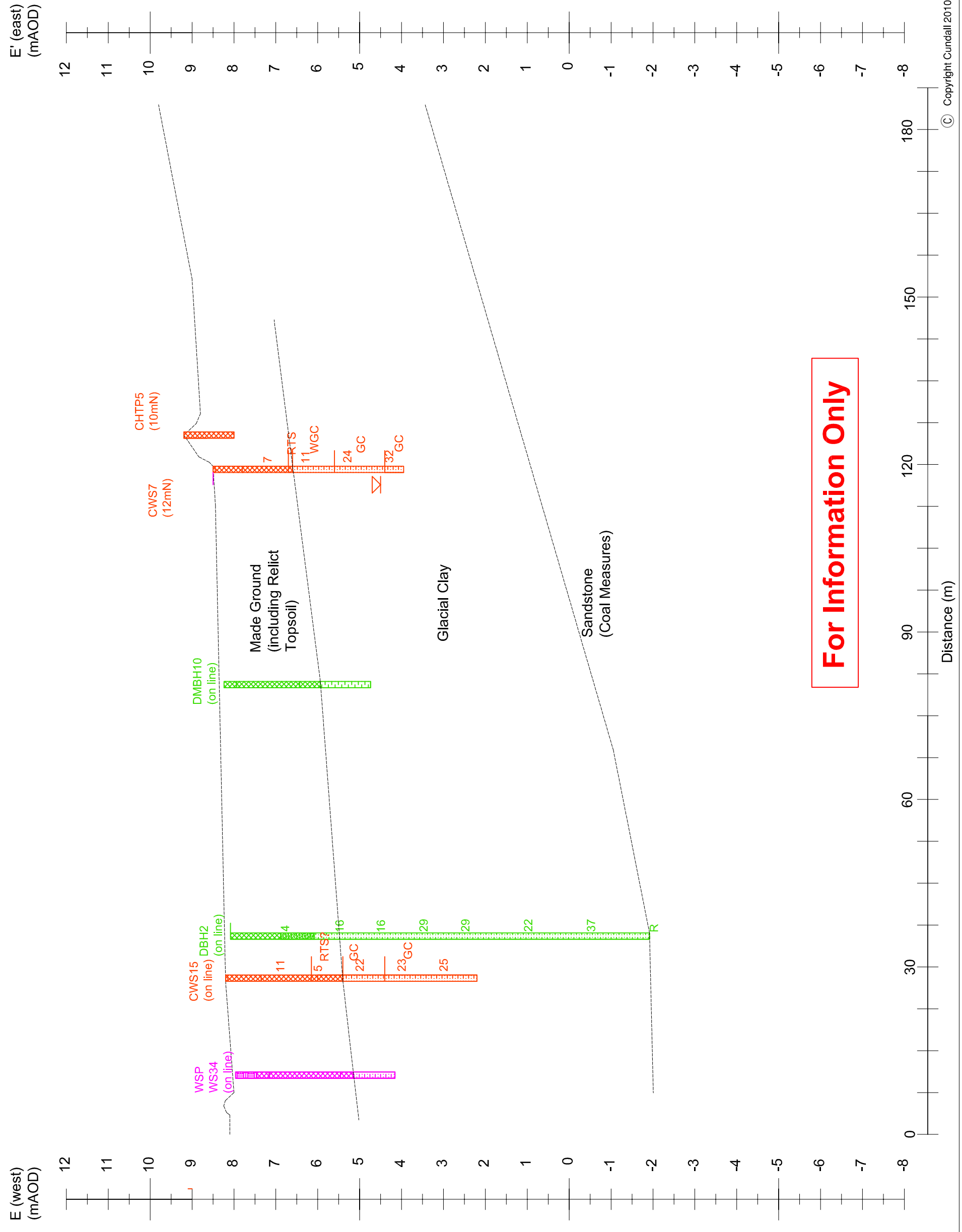
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Title Geotechnical Cross Section E-E'

Drawing Number Figure 4e

Iss.



NOTES

- RTS - Relict Topsoil (? Possible)
- LC - Laminated Glacial Clay (where identified)
- GC - Undifferentiated Glacial Clay
- WGT - Weathered Glacial Till
- 3.2m Groundwater level (m bgl) (03/10/11) monitored (date)
- Groundwater strike during drilling
- Hand drawn interface between strata (approximate)
- SPT N Value
- R Refusal

Note: Existing ground level shown is approximate, not surveyed (except at exploratory locations of current 2011 investigation)

- D - Dunelm 2009 Investigation
- PB - Parsons Brinkerhoff 2009 Investigation
- C - Cundall 2011 Investigation
- TT - Trial trench (Cundall 2011)
- HTP - Hand dug trial pit (Cundall 2011)

Issue	Date	Description	By	Chkd	Verfd
24.10.11	Figure Revised	ED	YI	YI	YI
10.10.11	For Information	EP	YI	YI	YI

Project Residential Development
Trinity South, South Shields

Client South Tyneside Council

Architect

Job No. 1004469

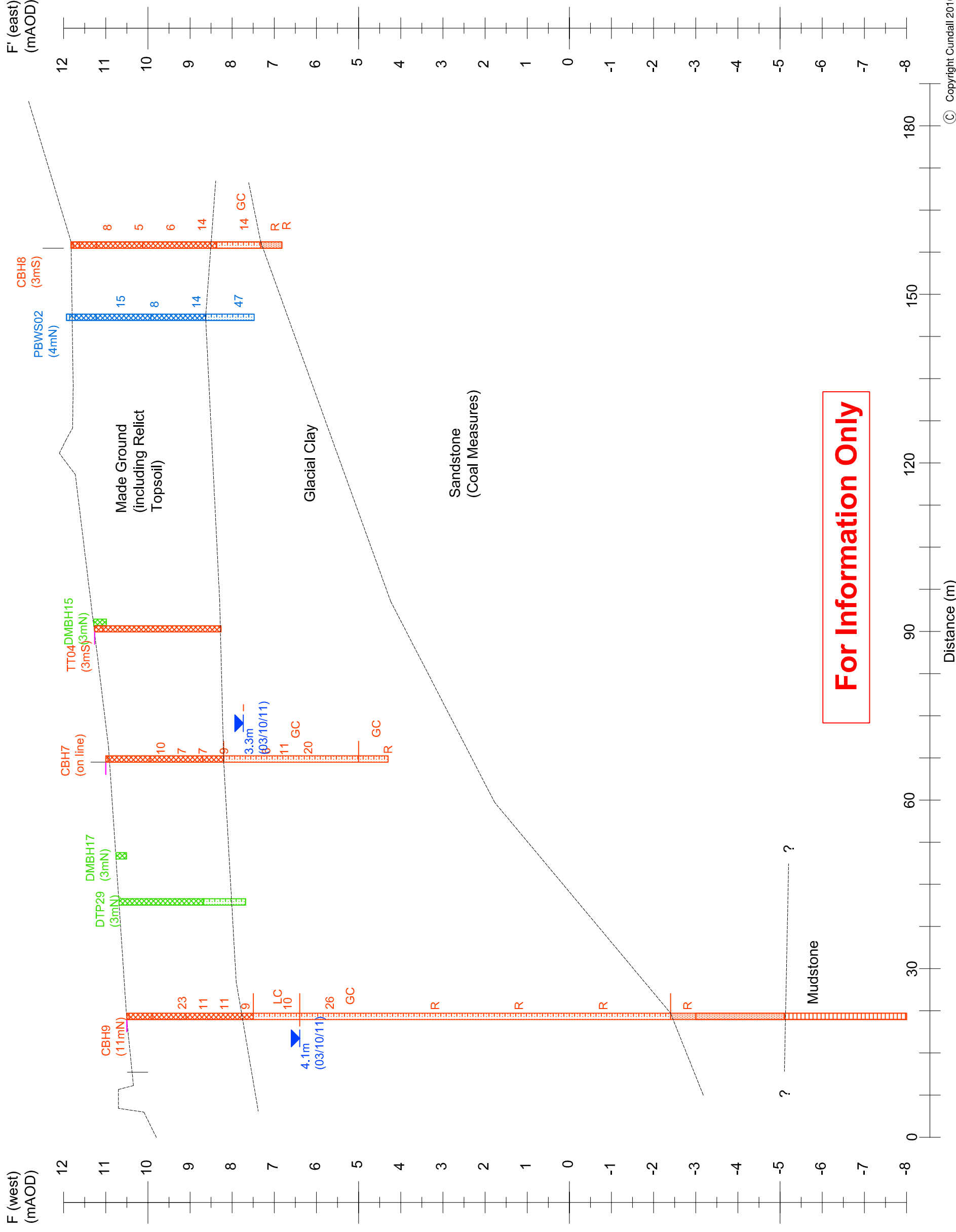
Scale NTS

Status

CUNDALL
Consulting Engineers
Horsley House, Regent Centre,
Gosforth,
Newcastle NE3 3LU
Tel: (0191) 213 1515
Fax: (0191) 213 1701
Website: www.cundall.com

Title Geotechnical Cross Section F-F

Drawing Number
Figure 4f
Iss.



For Information Only

North



Cundall (August 2011)

- CBH1 Cable percussion borehole
- CBH2 (R) Cable percussion borehole with rotary drilling follow on
- CWS1 Window sampling hole
- HTP1 Hand dug trial pit
- TT1 Machine dug trial trench
- CBR7 In situ CBR tests (plate load test for granular materials and MEXE probe for cohesive materials)
- (G) Combined gas and groundwater standpipe location
- (S) In situ soil consolidation test location

PB (March 2009)

- PBH1 Cable Percussion Hole
- PBWS1 Window Sampling Hole

Dunelm (Jan 2009)

- DBH1 Cable Percussion Hole
- DMBH1 Window Sampling Hole
- DTP1 Trial Pit

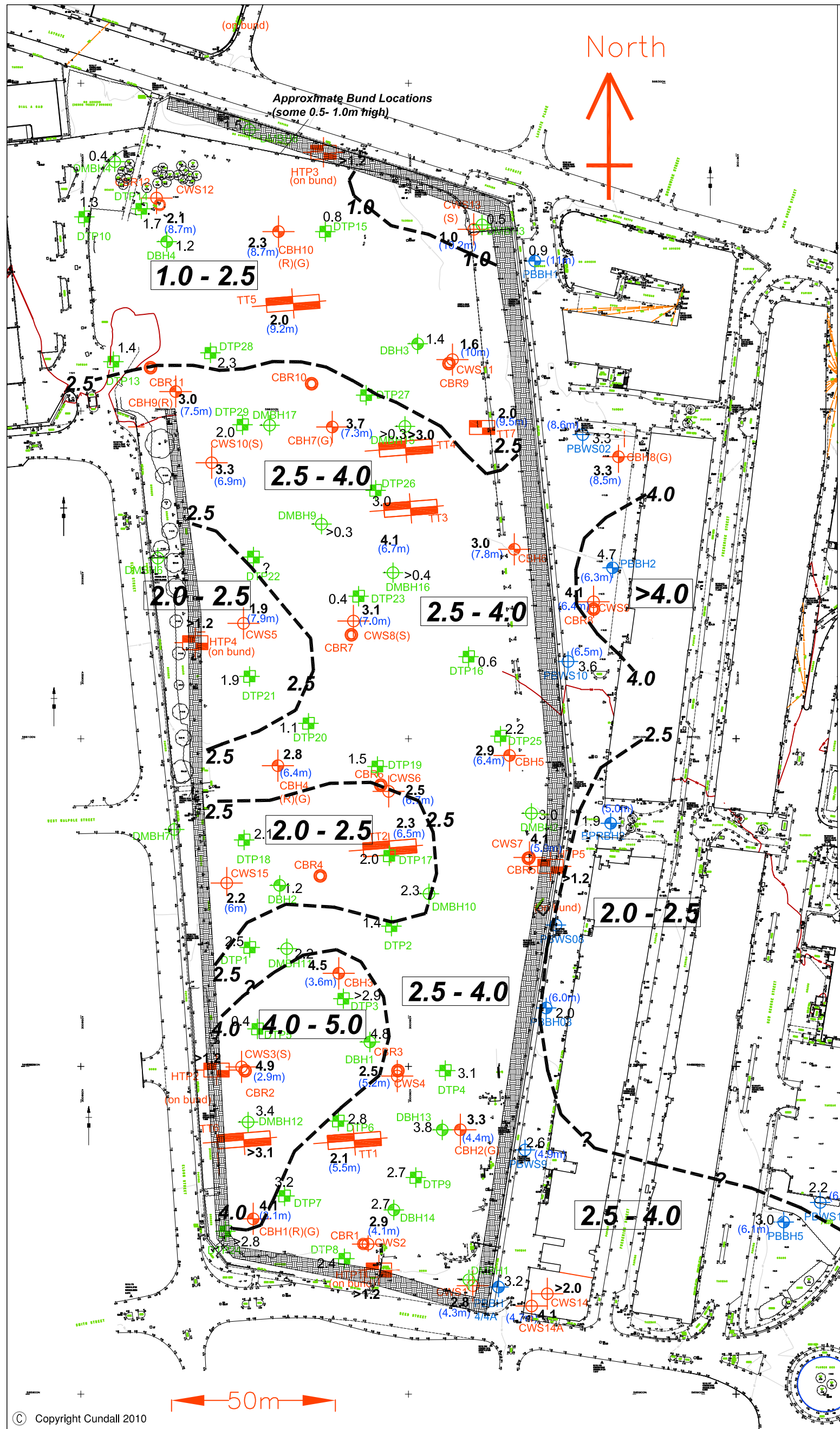
(Approximate Positions Not Surveyed)

- 2.8m Spot Made Ground Thickness (m)
- 6.4m Base of Made Ground (mAOD)
- 3.6 Spot Made Ground Thickness (m) of Previous Boreholes

4.0 Hand Drawn Made Ground Thickness Contour (m)

Approximate Location of Bund (some 0.5 - 1.0m high)

Note: Made ground thickness in bund encircling Circatex site is not shown on the drawing.



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Project Residential Development Trinity South, South Shields
 Client South Tyneside Council

Title Made Ground Contour Plan

Job No 1004469

Scale 1:1250

Status

Issue

Drawing Number Figure 5

CUNDALL

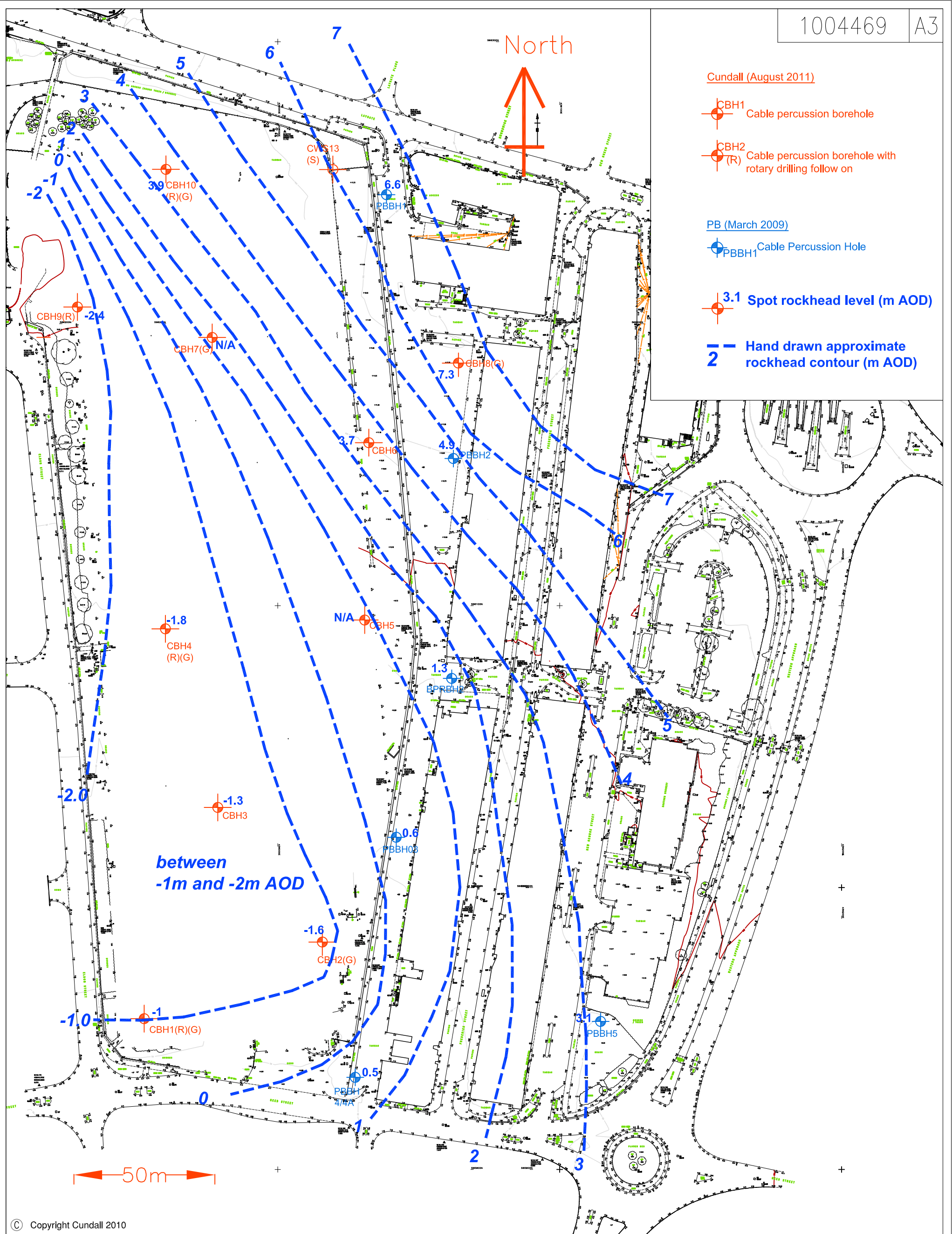
Consulting Engineers

Horsley House, Regent Centre, Gosforth, Newcastle NE3 3LU
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Website: www.cundall.com

Issue	Date	Description	By	Chkd	Verfd
0	06.10.11	For information only	EP	YI	YI

Architect



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For Information Only

0	06.10.11	For information only	EP	YI	YI
Issue	Date	Description	By	Chkd	Verfd

Project Residential Development
Trinity South, South Shields

Client South Tyneside Council

Architect

Title Rockhead Contour Plan

Drawing Number Figure 6

Job No 1004469

Scale 1:1250

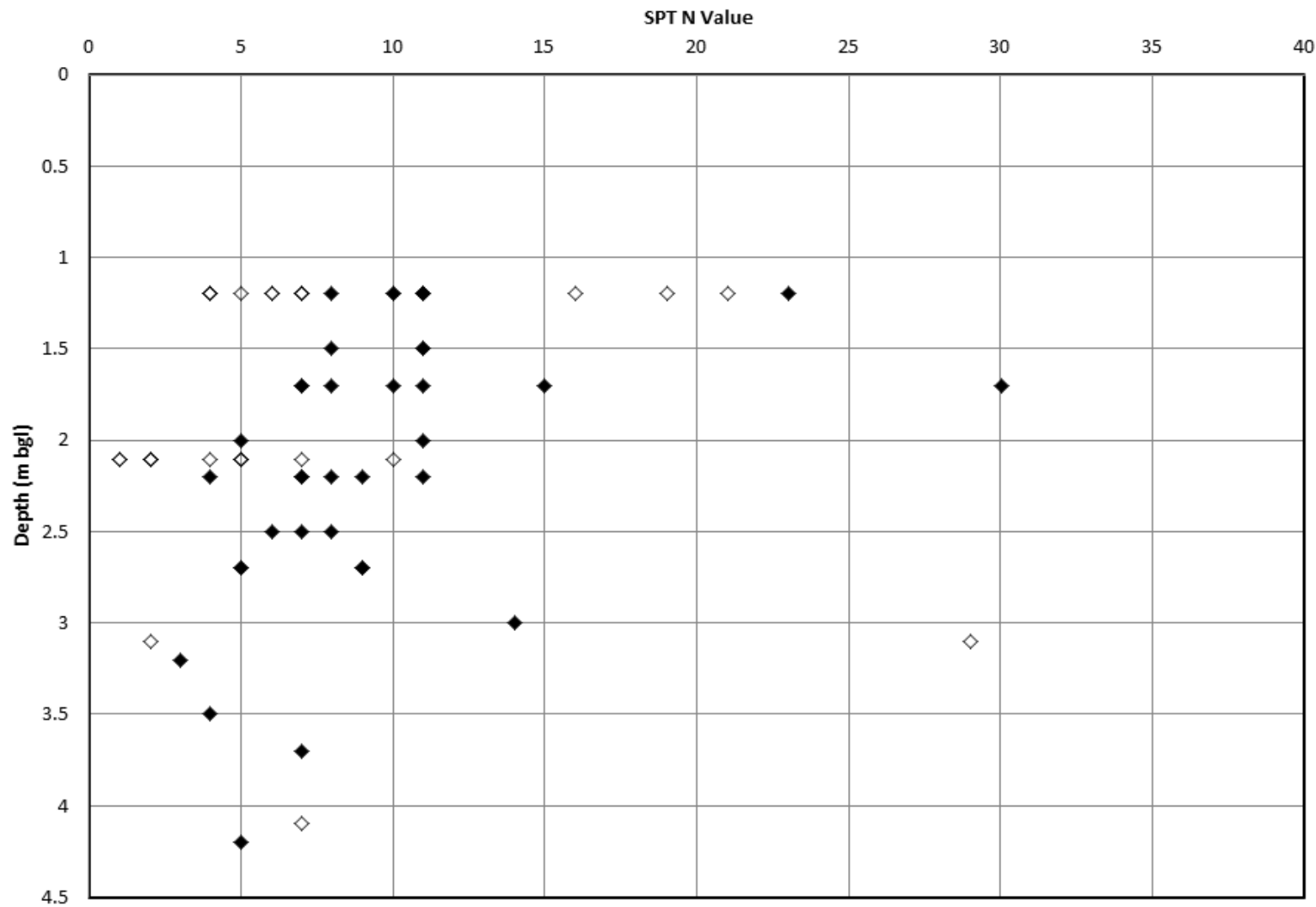
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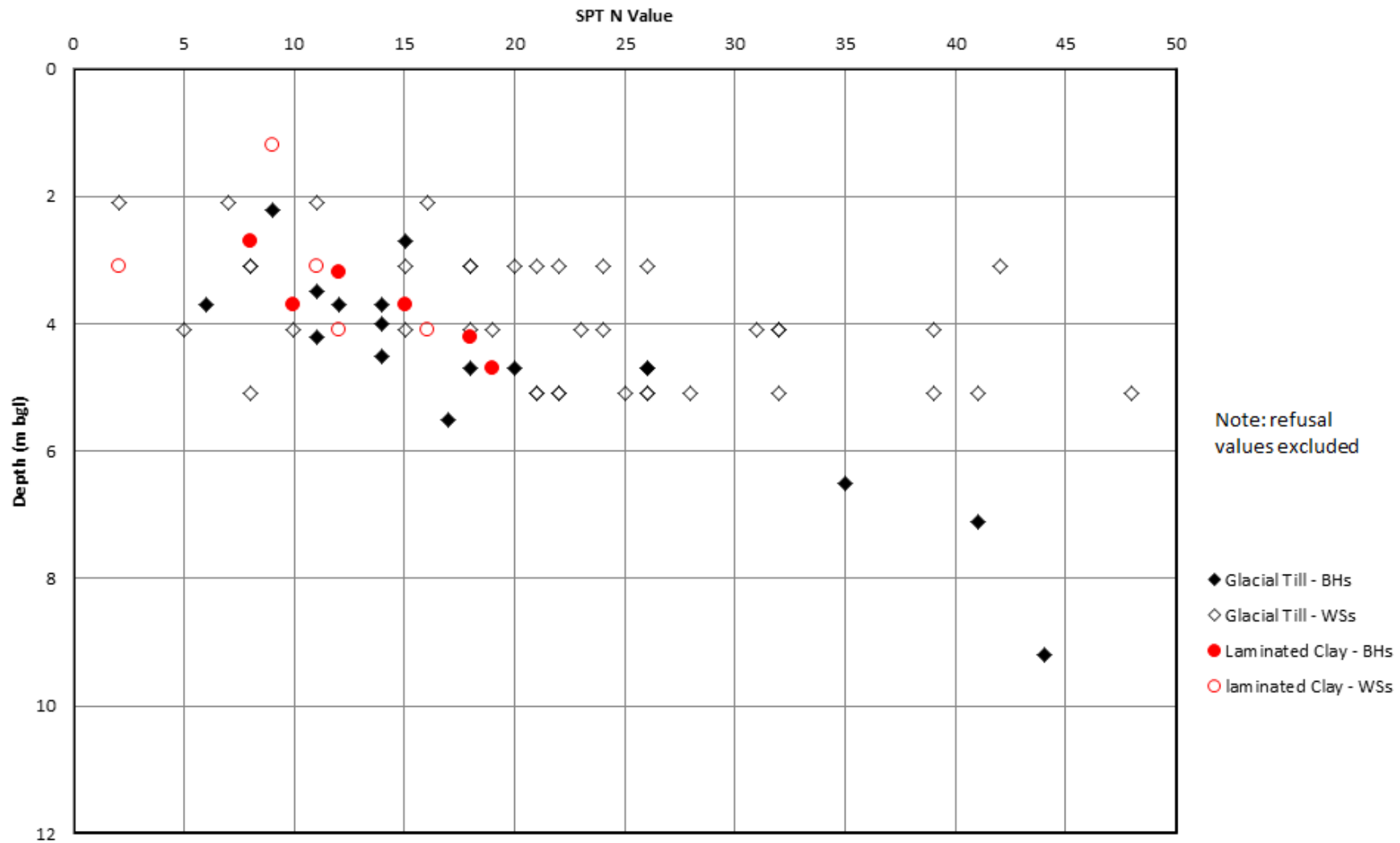
Issue


CUNDALL

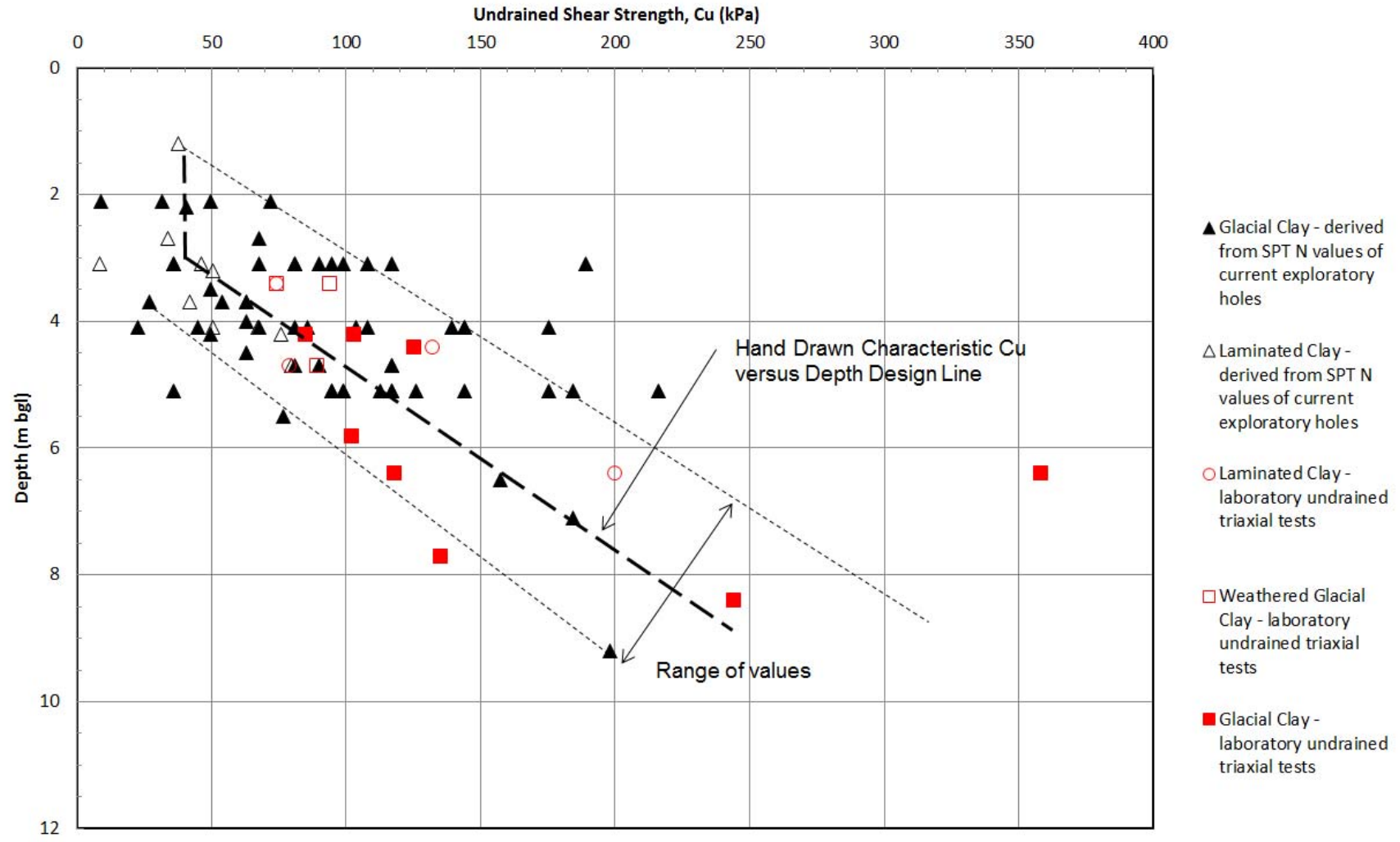
Consulting Engineers


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Fax: (0191) 213 1701
Website: www.cundall.com





Project	Residential Development, Trinity South, South Shields	Title			Scale	NTS	 Consulting Engineers Horsley House, Regent Centre Gosforth, Newcastle NE3 3LU Telephone: (0191) 213 1515 Facsimile: (0191) 213 1701	
		STP N Value versus Depth Plot			Date	24-10-11		
		Glacial Clay			Drawn	EP/ED		
		Client	South Tyneside Council		Stage	Drawing No.		Rev.
		Architect			-	Figure 8		0
				Checked	YI			
				Verified	YI			

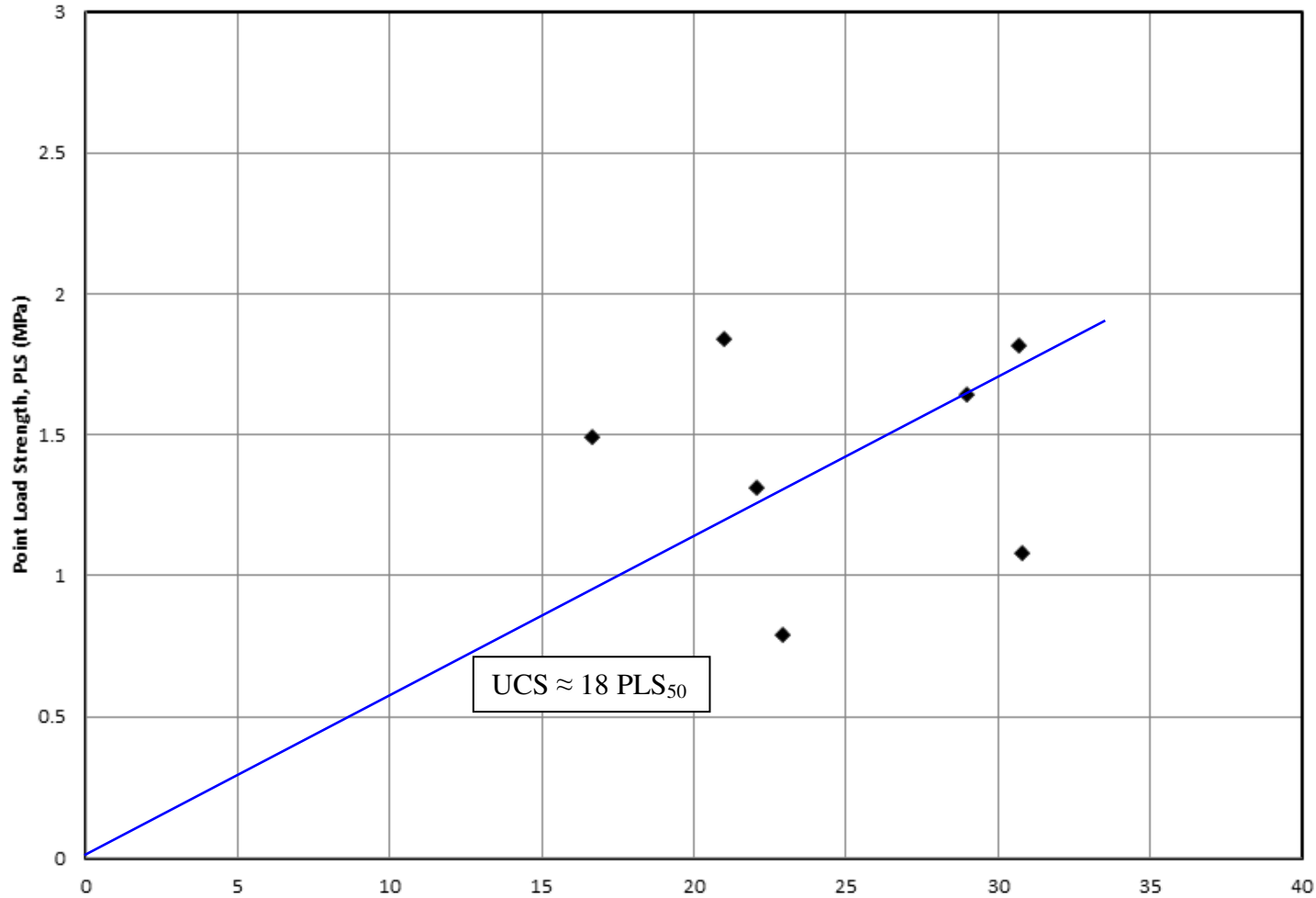


Project	Residential Development, Trinity South, South Shields	Title	Scale		NTS	 Consulting Engineers Horsley House, Regent Centre Gosforth, Newcastle NE3 3LU Telephone: (0191) 213 1515 Facsimile: (0191) 213 1701			
	Client		South Tyneside Council	Undrained Shear Strength versus			Date	26-10-11	
	Architect			Depth, Glacial Clay			Drawn	EP	
				Stage	Drawing No.		Rev.	Checked	YI
				-	Figure 9		0	Verified	YI

Sandstone

1004469 | A4

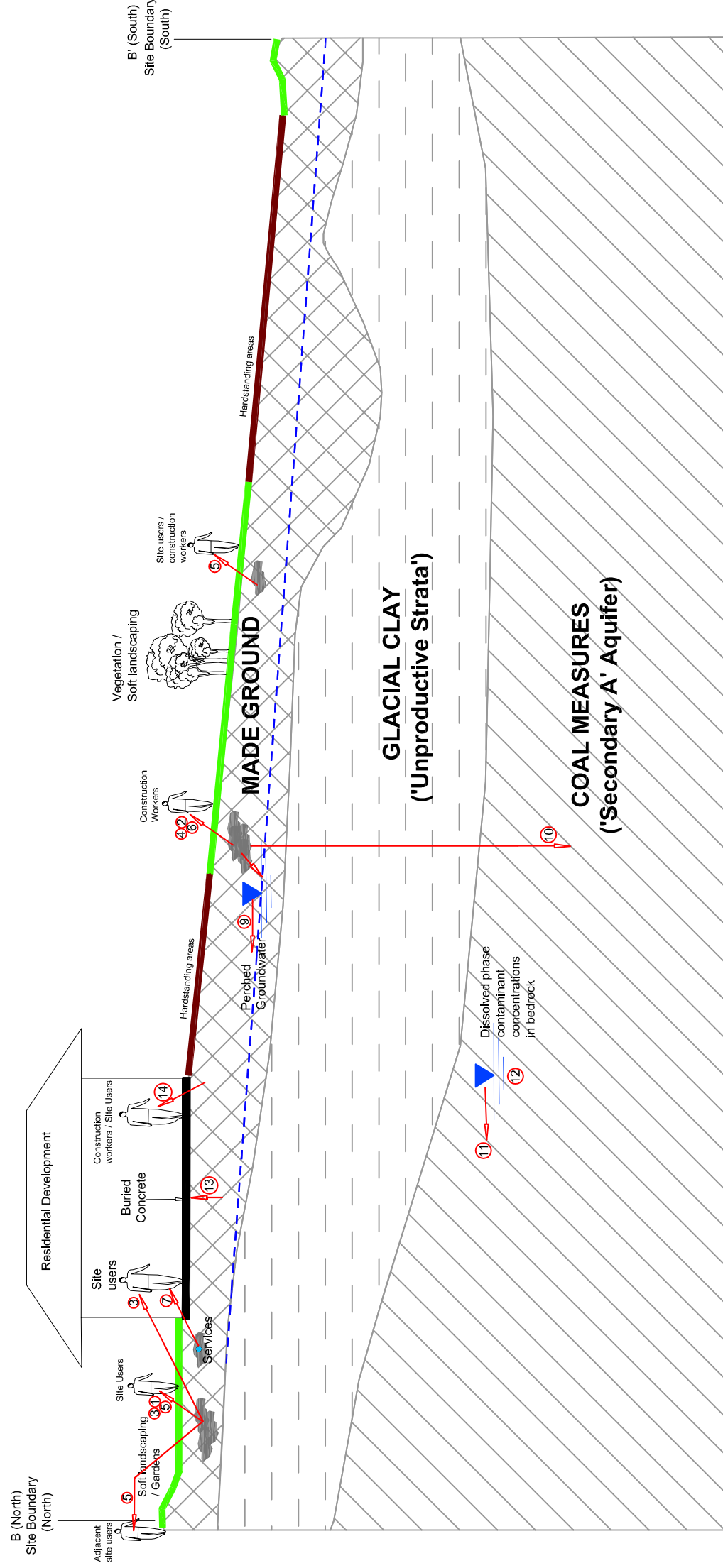
Uniaxial Compression Strength, UCS (MPa)



Project Residential Development, Trinity South, South Shields Client South Tyneside Council Architect	Title Point Load Test versus Uniaxial Compression Strength			Scale NTS	Consulting Engineers Horsley House, Regent Centre Gosforth, Newcastle NE3 3LU Telephone: (0191) 213 1515 Facsimile: (0191) 213 1701
	Stage Drawing No. Rev.			Date 24-10-11 Drawn EP/ED	
	- Figure 10 0			Checked YI	
	- Figure 10 0			Verified YI	

NOTES

This Conceptual Site Model is based upon the identified 'Source - Pathway - Receptor' linkages discussed in this report.



Contamination Source	Pathway	Receptor	Consequence of Pollutant Linkage	Significance of Pollutant Linkage	Overall Risk
Elevated concentrations of lead, vanadium, TPH and PAHs within shallow made ground at the site	1. Dermal contact	Site Users	Moderate to High	Moderate	Moderate
	2. Dermal contact	Construction Workers	Moderate to High	Moderate	Moderate
	3. Accidental ingestion	Site Users	Moderate to High	Moderate	Moderate
	4. Accidental ingestion	Construction Workers	Moderate to High	Moderate	Moderate
	5. Inhalation of fugitive dust and volatile vapours	Site Users / Adjacent Site Users	Moderate to High	Moderate	Moderate
	6. Inhalation of fugitive dust and volatile vapours	Construction Workers	Moderate to High	Moderate	Moderate
Recorded concentrations of pH, arsenic, lead, mercury PAH and TPH above the trigger levels	7. Permeation of new water supply pipes	Site Users	Moderate to High	Moderate	Moderate
	8. Uptake of asbestos fibres	Site Users	High	Moderate (Circatex site, hotspot location)	Moderate (Circatex site, hotspot location)
Recorded leachable copper concentrations	9. Leaching of mobile contaminants	Controlled Waters (River Tyne, located some 330m northwest)	Moderate	Low	Low
	10. Leaching of mobile contaminants	Controlled Waters (the underlying 'Secondary A' aquifer)	Moderate	Low	Low
Dissolved phase contaminant concentrations in groundwater	11. Migration of groundwater through permeable strata	Controlled Waters (River Tyne, located some 330m northwest)	Moderate	Low	Low
	12. Migration of groundwater through permeable strata	Controlled Waters (the underlying 'Secondary A' aquifer)	Moderate	Low	Low
Compounds aggressive to buried concrete	13. Direct attack of buried structures	Built Environment / Structures	Moderate	Low	Low to Moderate
Recorded concentrations of ground gas	14. Accumulation in confined spaces and/or explosion	Construction Workers / Site Users / Built Environment	High	Negligible to Low	Negligible to Low

Issue	Date	For Information	ED	YI	YI	Verifd
-	26.10.11					

Project Residential Development, Trinity South, South Shields
 Client South Tyneside Council
 Architect

Job No. 1004469
 Scale NTS
 Status

CUNDALL
 Consulting Engineers
 Horsley House, Regent Centre,
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 Fax: (0191) 213 1701
 Website: www.cundall.com

Title Conceptual Site Model

APPENDICES

Appendix A

Historical Ordnance Survey Maps and Plans

Historical Mapping Legends

Ordnance Survey County Series 1:10,560

- Gravel Pit
- Sand Pit
- Other Pits
- Quarry
- Shingle
- Orchard
- Osiers
- Reeds
- Marsh
- Mixed Wood
- Deciduous
- Brushwood
- Fir
- Furze
- Rough Pasture
- Arrow denotes flow of water
- Trigonometrical Station
- Site of Antiquities
- Bench Mark
- Pump, Guide Post, Signal Post
- Well, Spring, Boundary Post
- 285** Surface Level
- Sketched Contour
- Instrumental Contour
- Main Roads
- Minor Roads
- Sunken Road
- Raised Road
- Road over Railway
- Railway over River
- Railway over Road
- Level Crossing
- Road over River or Canal
- Road over Stream
- Road over Stream
- County Boundary (Geographical)
- County & Civil Parish Boundary
- Administrative County & Civil Parish Boundary
- County Borough Boundary (England)
- County Burgh Boundary (Scotland)
- Rural District Boundary
- Civil Parish Boundary

Ordnance Survey Plan 1:10,000

- Chalk Pit, Clay Pit or Quarry
- Gravel Pit
- Sand Pit
- Disused Pit or Quarry
- Refuse or Slag Heap
- Lake, Loch or Pond
- Dunes
- Boulders
- Coniferous Trees
- Non-Coniferous Trees
- Orchard
- Scrub
- Coppice
- Bracken
- Heath
- Rough Grassland
- Marsh
- Reeds
- Saltings
- Building
- Glasshouse
- Sloping Masonry
- Pylon
- Electricity Transmission Line
- Pole
- Cutting
- Embankment
- Standard Gauge Multiple Track
- Standard Gauge Single Track
- Siding, Tramway or Mineral Line
- Narrow Gauge
- Geographical County
- Administrative County, County Borough or County of City
- Municipal Borough, Urban or Rural District, Burgh or District Council
- Borough, Burgh or County Constituency
- Civil Parish
- BP, BS** Boundary Post or Stone
- Ch** Church
- CH** Club House
- F E Sta** Fire Engine Station
- FB** Foot Bridge
- Fn** Fountain
- GP** Guide Post
- MP** Mile Post
- MS** Mile Stone
- Pol Sta** Police Station
- PO** Post Office
- PC** Public Convenience
- PH** Public House
- SB** Signal Box
- Spr** Spring
- TCB** Telephone Call Box
- TCP** Telephone Call Post
- W** Well

1:10,000 Raster Mapping

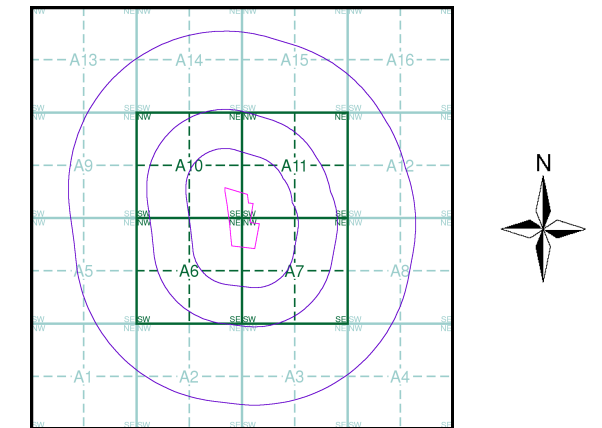
- Gravel Pit
- Rock
- Boulders
- Shingle
- Sand
- Slopes
- General detail
- Overhead detail
- Multi-track railway
- County boundary (England only)
- District, Unitary, Metropolitan, London Borough boundary
- Refuse tip or slag heap
- Rock (scattered)
- Boulders (scattered)
- Mud
- Sand Pit
- Top of cliff
- Underground detail
- Narrow gauge railway
- Single track railway
- Civil, parish or community boundary
- Constituency boundary
- Area of wooded vegetation
- Non-coniferous trees
- Coniferous trees
- Positioned tree
- Coppice or Osiers
- Heath
- Marsh, Salt Marsh or Reeds
- Flow arrows
- Mean high water (springs)
- Mean low water (springs)
- Electricity transmission line (with poles)
- Telephone line (where shown)
- Bench mark (where shown)
- Point feature (e.g. Guide Post or Mile Stone)
- Site of (antiquity)
- General Building
- Important Building



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Durham	1:10,560	1862	3
Northumberland	1:10,560	1864 - 1865	4
Durham	1:10,560	1898	5
Northumberland	1:10,560	1899	6
Durham	1:10,560	1921	7
Durham	1:10,560	1938	8
Ordnance Survey Plan	1:10,000	1951 - 1952	9
Ordnance Survey Plan	1:10,000	1957	10
Ordnance Survey Plan	1:10,000	1967 - 1968	11
Ordnance Survey Plan	1:10,000	1973 - 1977	12
Sunderland	1:10,000	1976	13
Newcastle-upon-Tyne	1:25,000	1977	14
Ordnance Survey Plan	1:10,000	1982 - 1987	15
Ordnance Survey Plan	1:10,000	1992 - 1995	16
10K Raster Mapping	1:10,000	2000	17
10K Raster Mapping	1:10,000	2006	18
10K Raster Mapping	1:10,000	2011	19

Historical Map - Slice A



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk

Russian Military Mapping Legends

1:5,000 and 1:10,000 mapping

a. Not drawn to scale b. Drawn to scale

Government and Administrative Buildings
Military and Industrial Buildings
Military and Communication Areas
Fireproof Building
Non-fireproof Building
Factory, mill, and flour mill, with chimneys
Power Station, drawn to scale
Radio Station, drawn to scale
Abandoned Open-pit Mine or Quarry
Pit
Tailings Pile
Bench Mark
Fill
Single-track Railroad
Coniferous Forest
Deciduous Forest
Mixed Forest
Lawns
Citrus Orchard
Wet Ground
Scattered Vegetation

Military and Industrial Buildings
Subway Entrance
Prominent Fireproof Building
Non-fireproof Building (non-dwelling)
Factory, mill, and flour mill, without chimneys
Hydroelectric Power Station
Telephone Station, drawn to scale
Open-pit Salt Mine
Oil Deposit or Well
Oil Seepage
Fuel Storage Tanks
Natural Gas Tank
Burial Mound
Triangulation Point on Burial Mound
Small Bridge
Double-track Railroad and Station Building
Deciduous Forest
Mixed Forest
Scattered Vegetation

243.8 Values for prominent elevations
186.0 Numbers for spot elevations, depth soundings, contour lines, etc.
0.2 Velocity of the current, width of river bed, depth of river
180/12 Fractional terms: length and capacity of bridges; depth of fords and condition of the river bottom; height of forest and the diameter of trees

Russian Alphabet (For reference and phonetic interpretation of map text)

А а (A)	З з (Z)	П п (P)	Ч ч (CH)
Б б (B)	И и (I)	Р р (R)	Ш ш (SH)
В в (V)	Й й (Y)	С с (S)	Щ щ (SHCH)
Г г (G)	К к (K)	Т т (T)	Ъ (-)
Д д (D)	Л л (L)	У у (U)	Ы (Y)
Е е (E)	М м (M)	Ф ф (F)	Ь (')
Ё ё (YO)	Н н (N)	Х х (KH)	Э э (E)
Ж ж (ZH)	О о (O)	Ц ц (TS)	Ю ю (YU or IU)
			Я я (YA or IA)

1:25,000 mapping

a. Not drawn to scale b. Drawn to scale

Government and Administrative Buildings
Military and Industrial Buildings
Military and Communication Areas
Partly Demolished Buildings
Built-Up Area with Fireproof Buildings Predominant
Individual Fireproof Building
Individual Dwelling, Fireproof
Factory or Mill Chimney
Operating Shaft or Mine
Pit
Oil or Natural Gas Derrick
Cemetery
Bench Mark
Radio Station
Small Bridge
Double-track Railroad with First Class Station
Shore Embankment
Well
Heavy (Index) Contour Line
Coniferous

Military and Industrial Buildings
Subway Entrance
Demolished Buildings
Built-Up Area with Non-Fireproof Buildings Predominant
Prominent Industrial Building
Ruins of an Individual Dwelling
Factory or Mill without Chimney
Non-Operating Shaft or Mine
Salt Mine
Tailings Pile
Gas Pump or Service Station
Fuel Storage or Natural Gas Tank
Power Station
Transformer Station
Triangulation Point on Burial Mound
Triangulation Point
Telegraph Office
Telephone Station
Airfield or Seaplane Base
Landing Strip
Highway under Construction
Improved Dirt Road (former truck road)
Dismantled Railroad
Railroad Under Construction
River or Ditch with Embankment
Water Reservoir or Rain Water Pit
Spring
Isobath with value
Half Contour Line
Spot Elevation Value
Mixed
Scrub

Key to Numbers on Mapping

NZ36_Newcastle

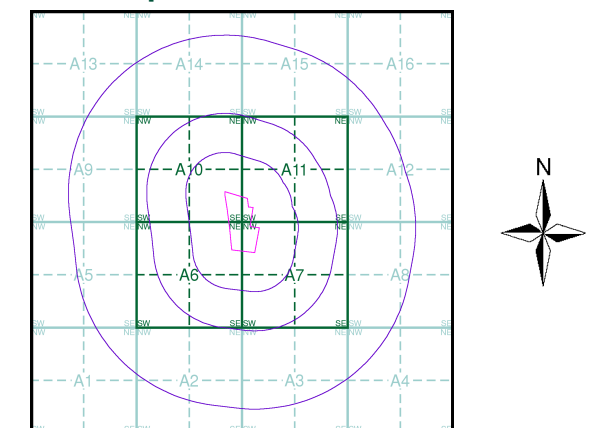
No.	Description
39	Factory (Metal Works)
71	Factory (Ship Building)
132	Council/Government Buildings/Courts
142	Warehouses (Use Unknown) And Port Buildings
143	Warehouses (Use Unknown) And Port Buildings



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Durham	1:10,560	1862	3
Northumberland	1:10,560	1864 - 1865	4
Durham	1:10,560	1898	5
Northumberland	1:10,560	1899	6
Durham	1:10,560	1921	7
Durham	1:10,560	1938	8
Ordnance Survey Plan	1:10,000	1951 - 1952	9
Ordnance Survey Plan	1:10,000	1957	10
Ordnance Survey Plan	1:10,000	1967 - 1968	11
Ordnance Survey Plan	1:10,000	1973 - 1977	12
Sunderland	1:10,000	1976	13
Newcastle-upon-Tyne	1:25,000	1977	14
Ordnance Survey Plan	1:10,000	1982 - 1987	15
Ordnance Survey Plan	1:10,000	1992 - 1995	16
10K Raster Mapping	1:10,000	2000	17
10K Raster Mapping	1:10,000	2006	18
10K Raster Mapping	1:10,000	2011	19

Russian Map - Slice A



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk


Durham

Published 1862

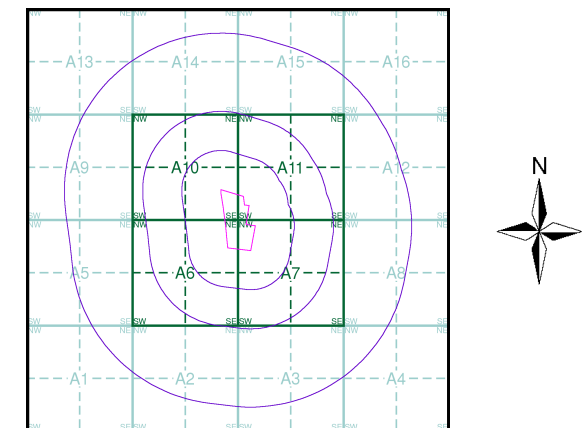
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

00300	1862	1:10,560		00400	1862	1:10,560
-------	------	----------	--	-------	------	----------

Historical Map - Slice A

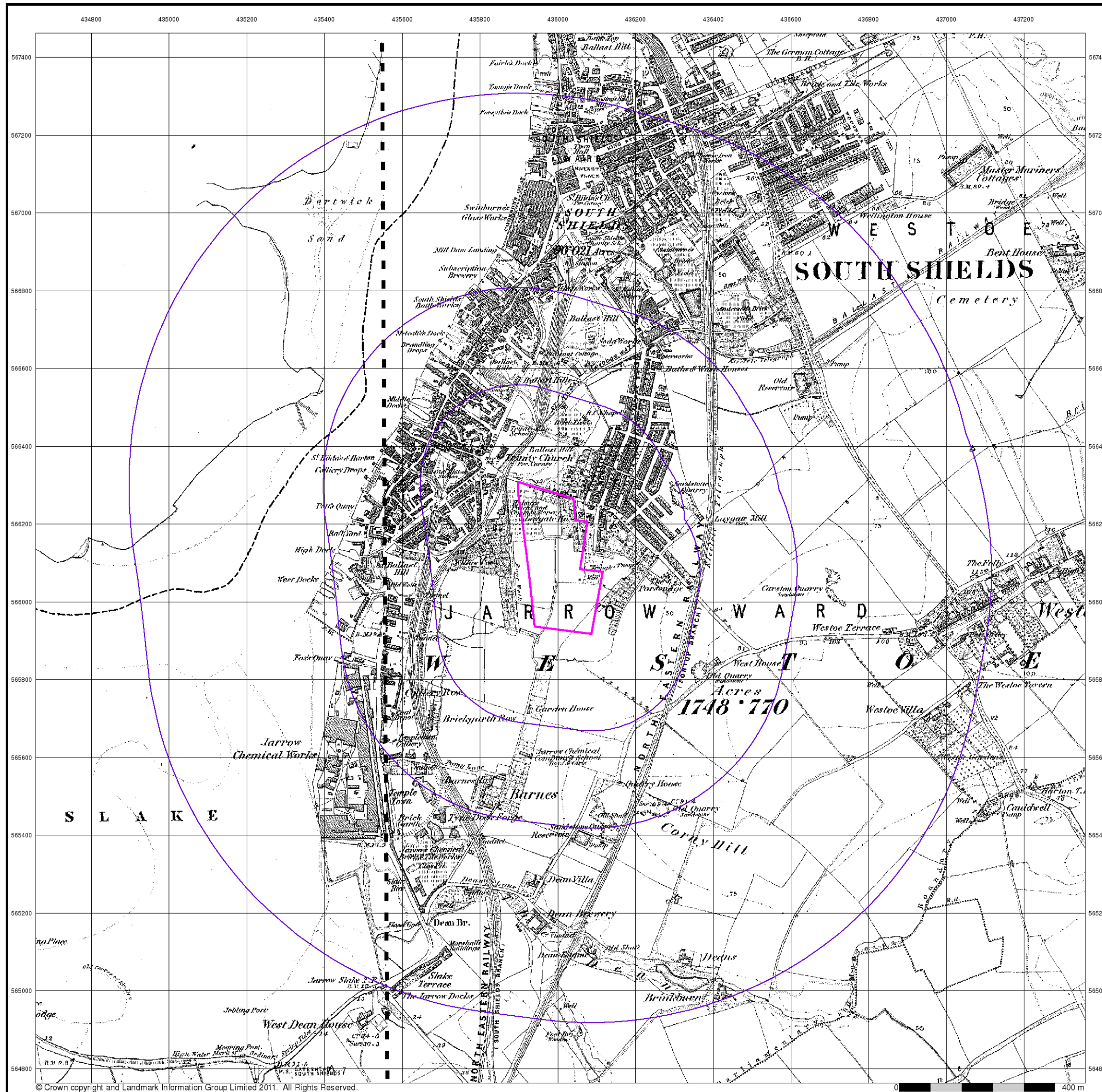


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

Residential Development, Trinity South, SOUTH SHIELDS,
 Tyne and Wear



Northumberland

Published 1864 - 1865

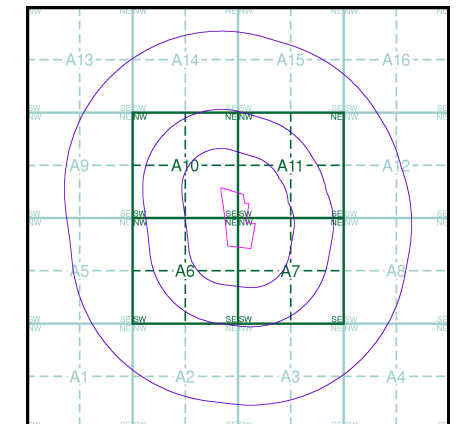
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

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09800	1864	1:10,560

Historical Map - Slice A

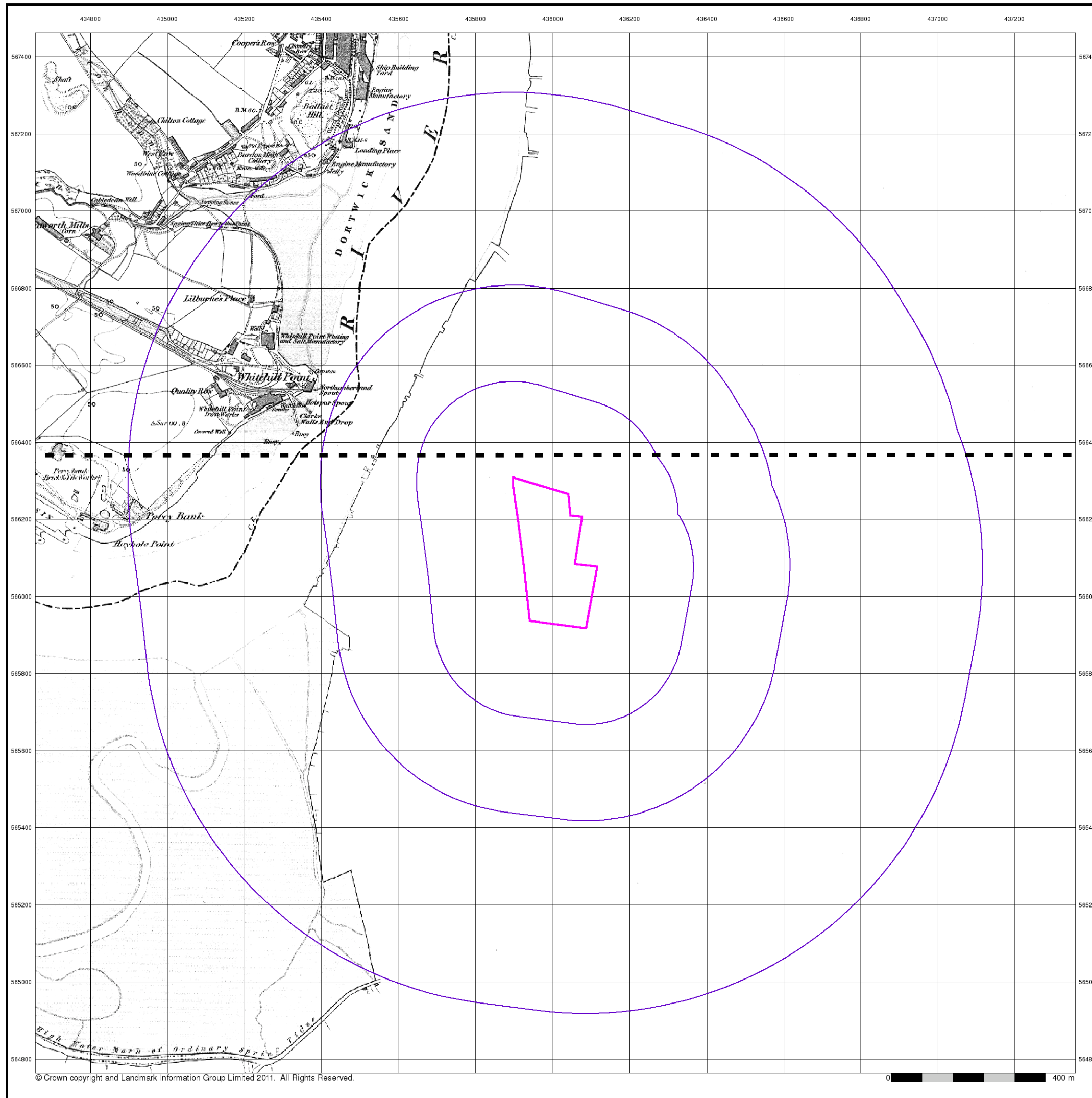


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
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 Site Area (Ha): 5.6
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Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Durham

Published 1898

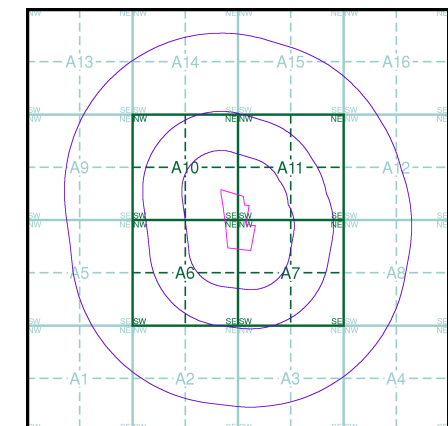
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Map Name(s) and Date(s)

003NE 1898 1:10,560	004NW 1898 1:10,560
003SE 1898 1:10,560	004SW 1898 1:10,560

Historical Map - Slice A

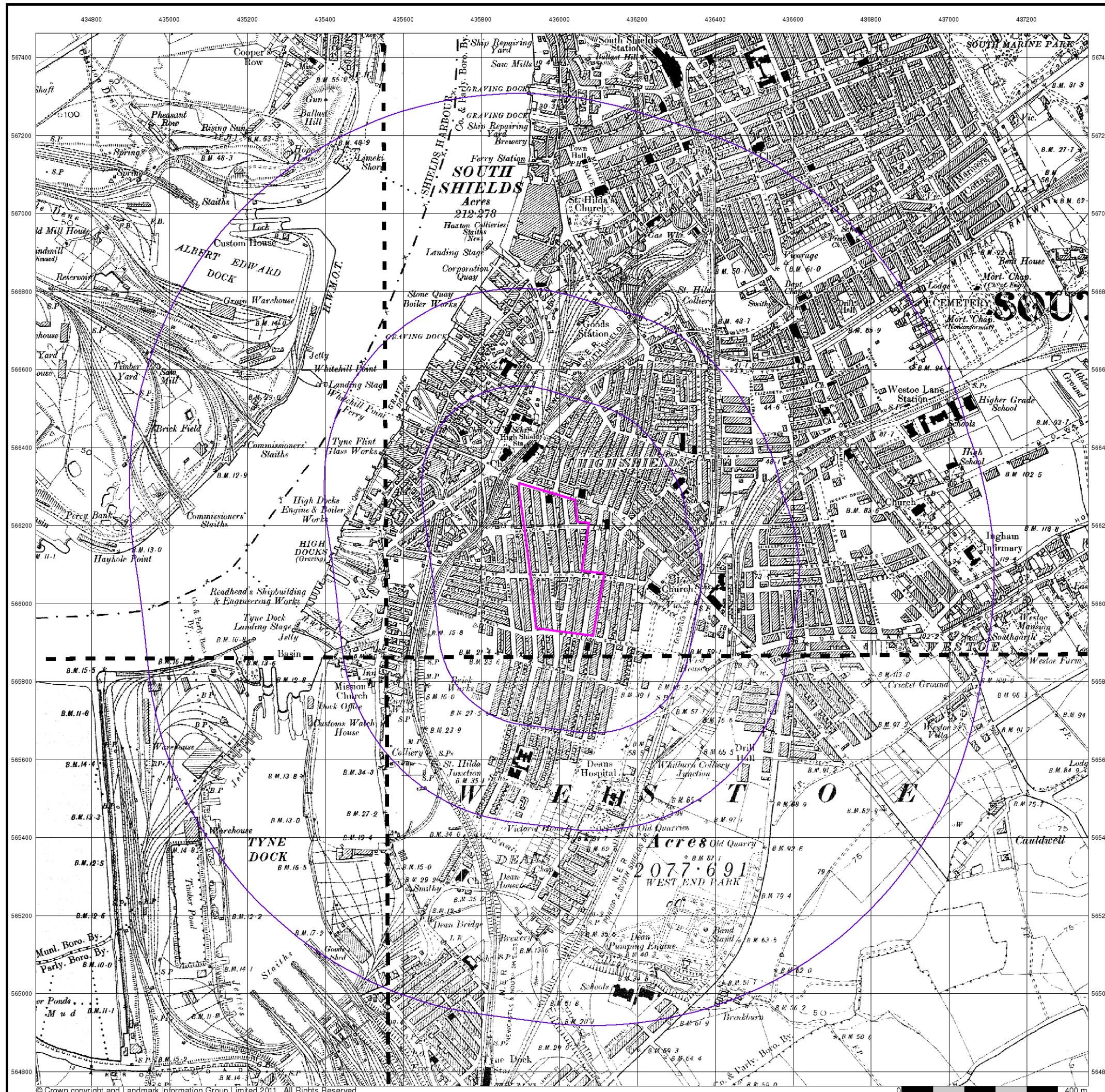


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Northumberland

Published 1899

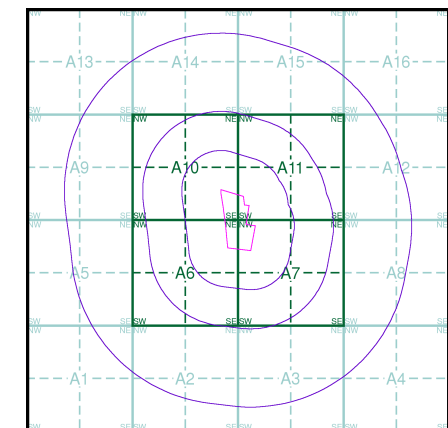
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

089SE	1899	1:10,560
098NE	1899	1:10,560

Historical Map - Slice A

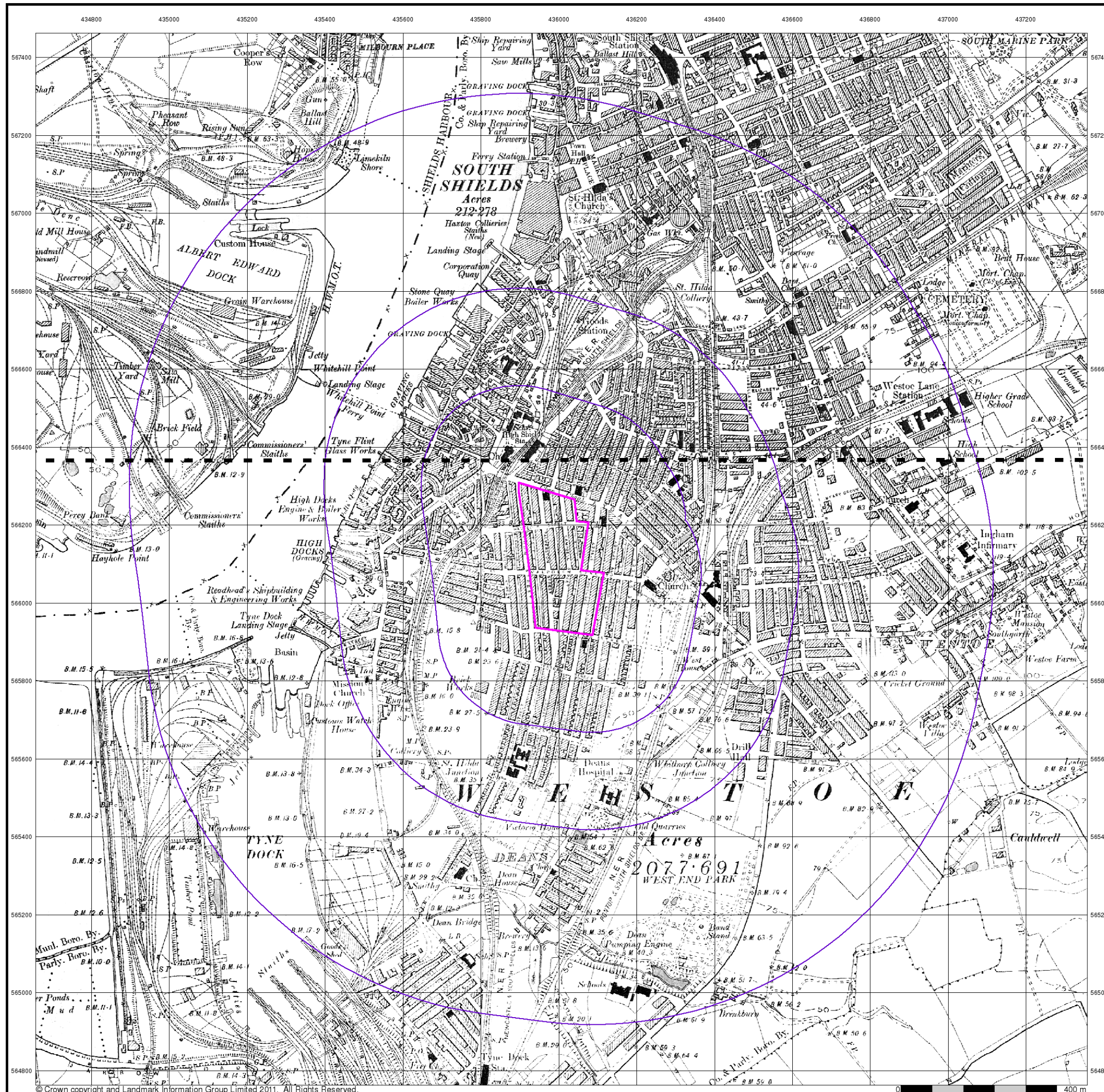


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Durham

Published 1921

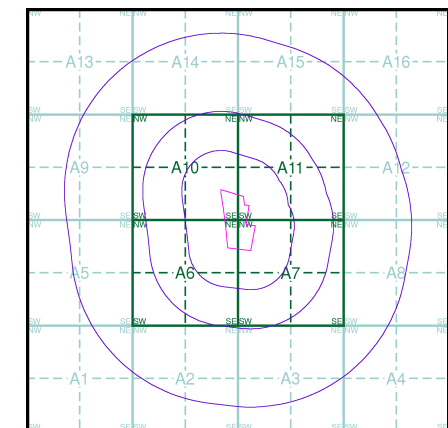
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

003NE 1921 1:10,560	004NW 1921 1:10,560
003SE 1921 1:10,560	004SW 1921 1:10,560

Historical Map - Slice A

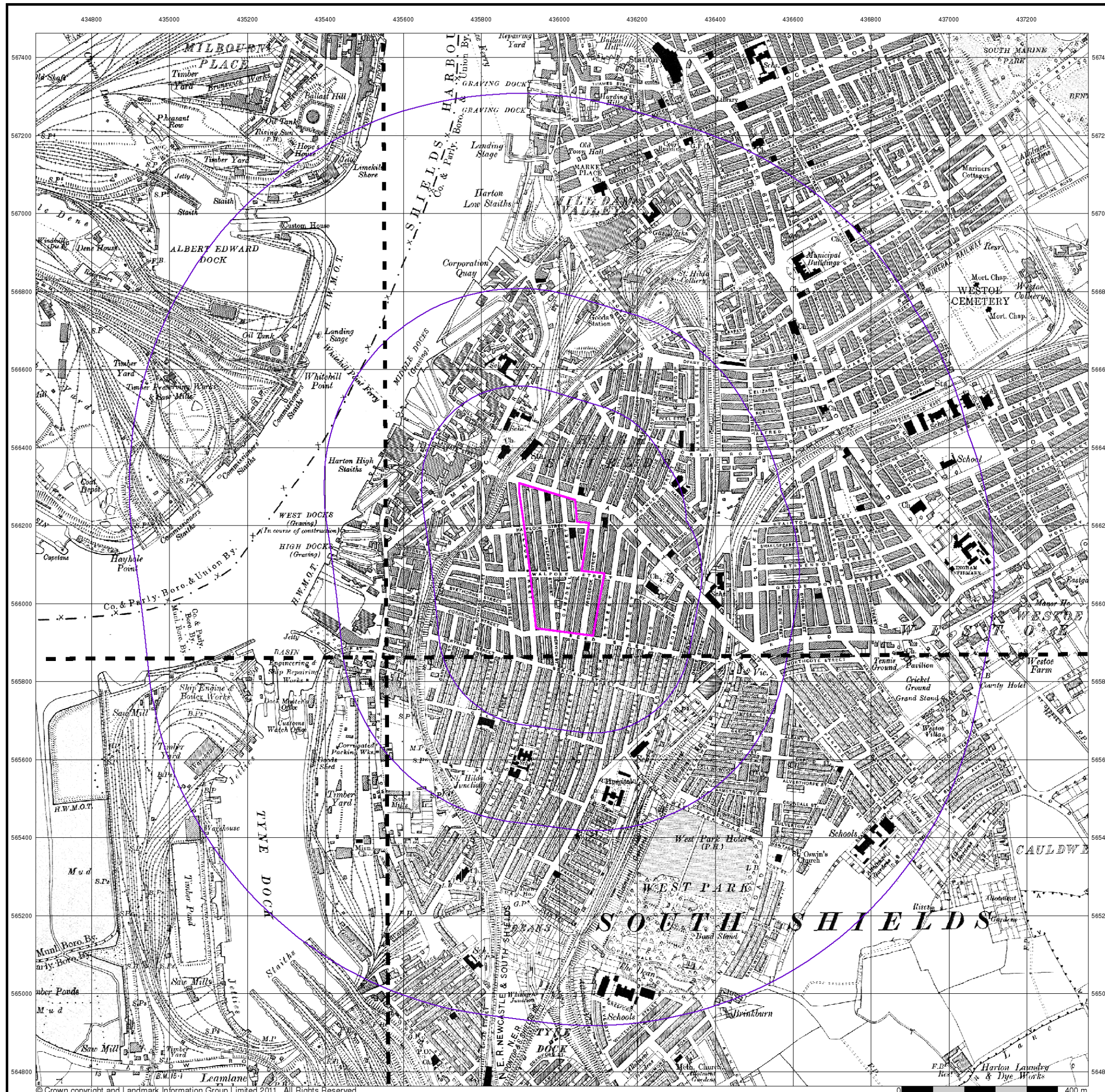


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

Residential Development, Trinity South, SOUTH SHIELDS,
 Tyne and Wear



Durham

Published 1938

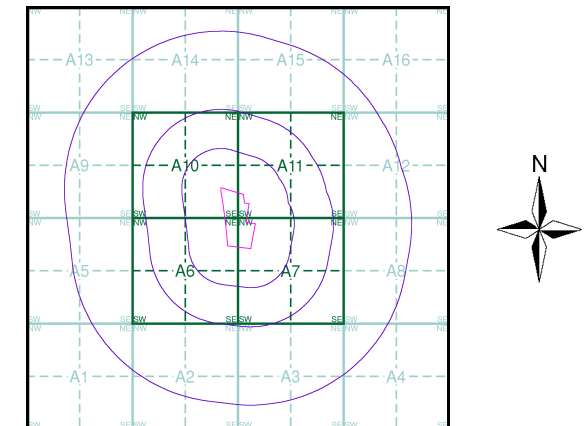
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

003NE 1938 1:10,560	004NW 1938 1:10,560
003SE 1938 1:10,560	004SW 1938 1:10,560

Historical Map - Slice A

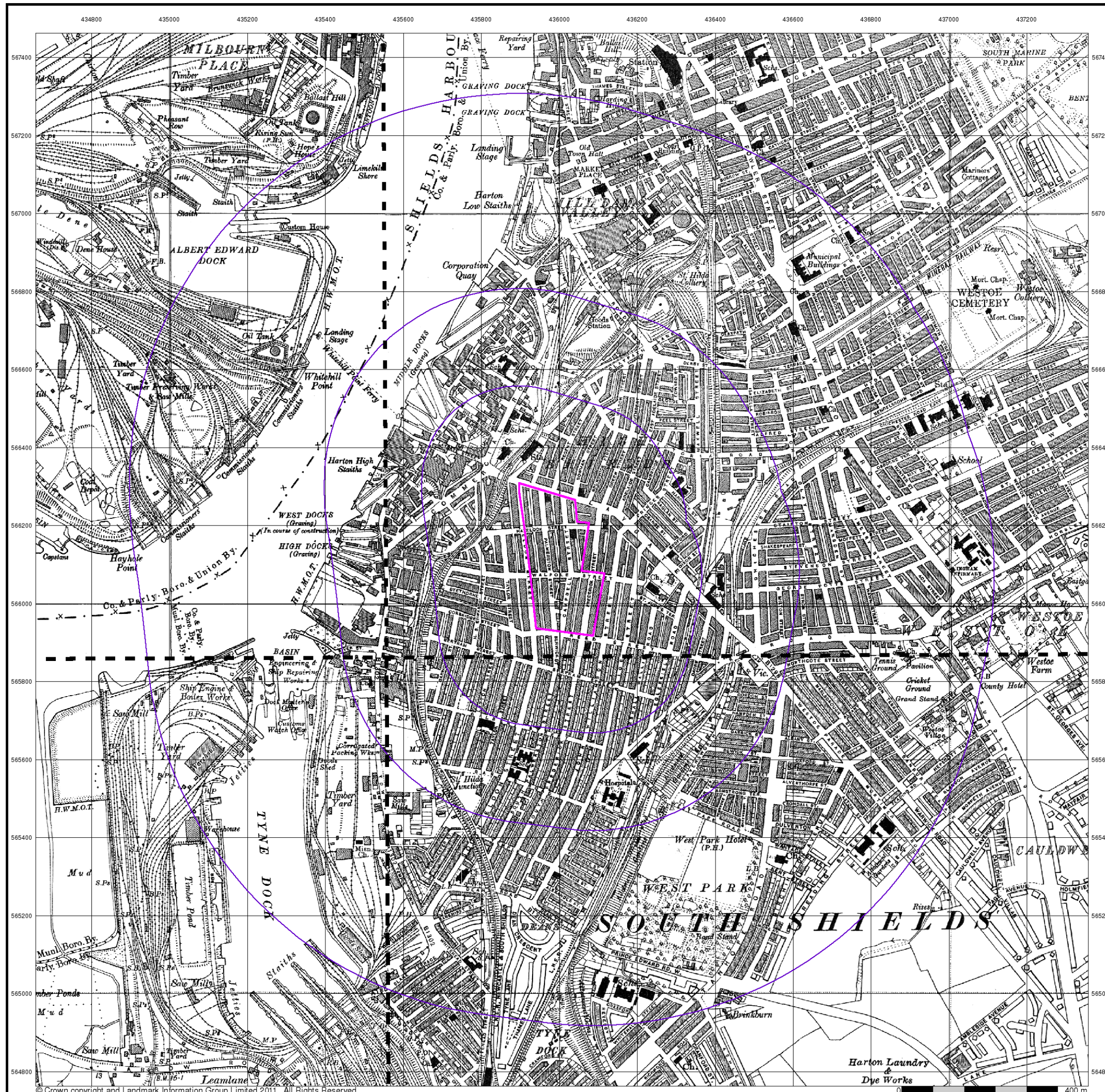


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

Residential Development, Trinity South, SOUTH SHIELDS,
 Tyne and Wear



Ordnance Survey Plan

Published 1951 - 1952

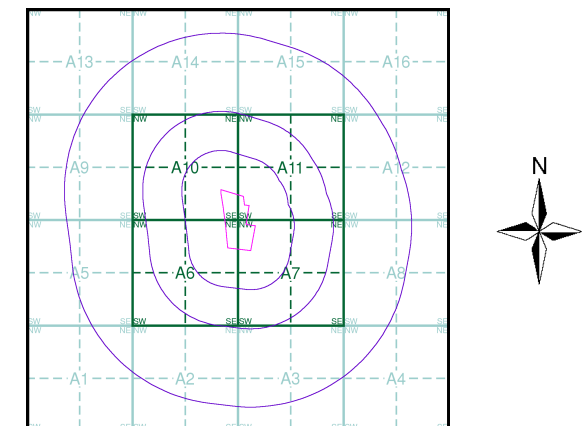
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

NZ36NW	NZ36NE
1951	1952
1:10,560	1:10,560
NZ36SW	NZ36SE
1952	1951
1:10,560	1:10,560

Historical Map - Slice A



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



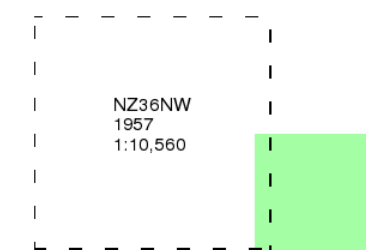
Ordnance Survey Plan

Published 1957

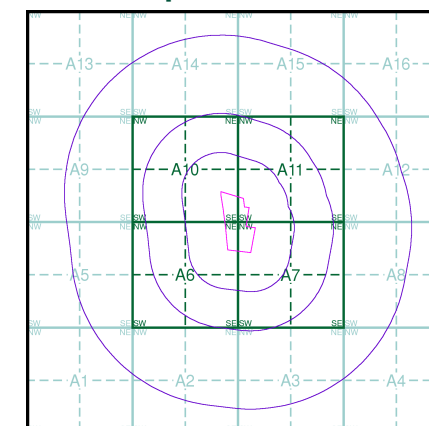
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A

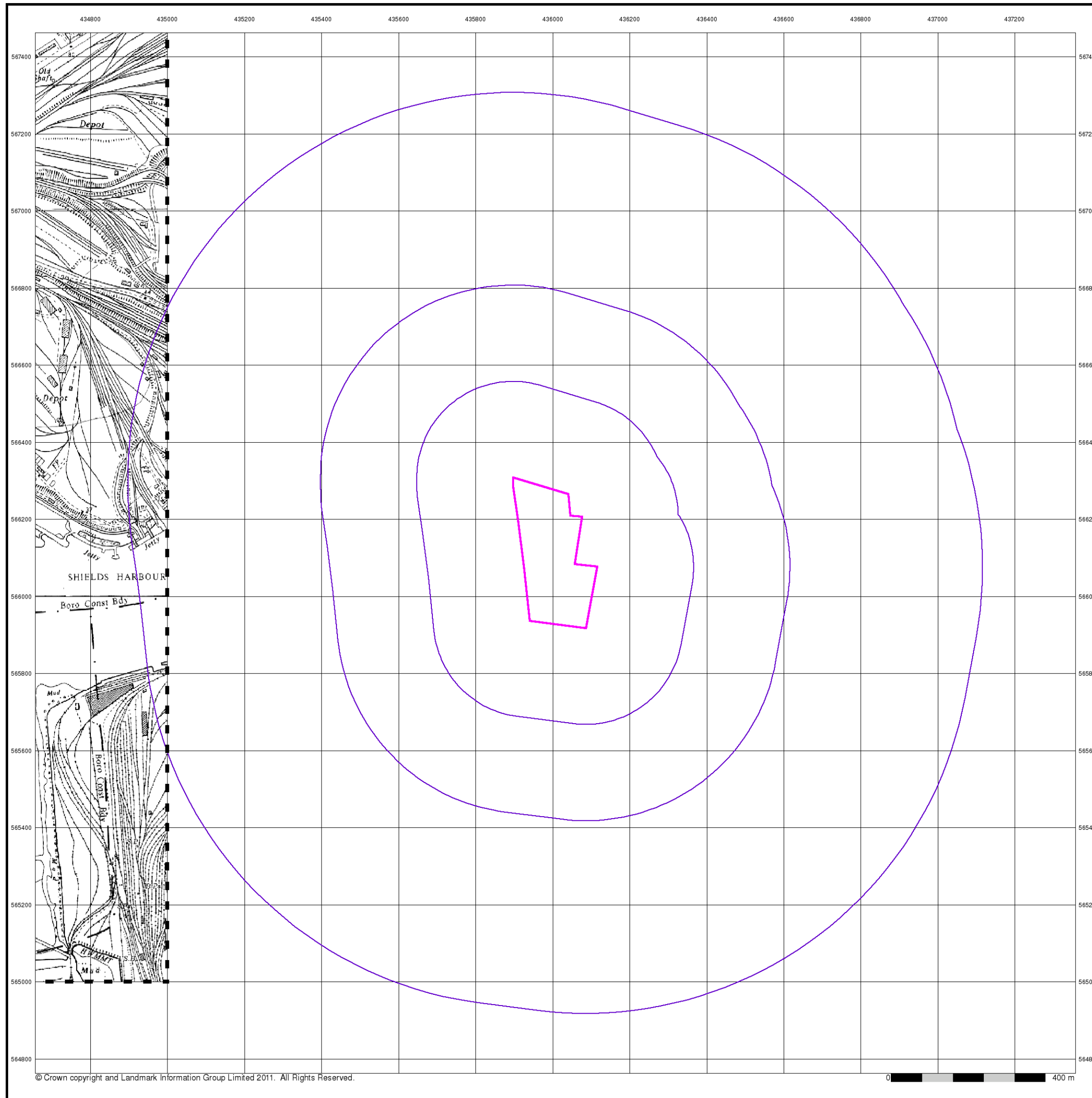


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Ordnance Survey Plan

Published 1967 - 1968

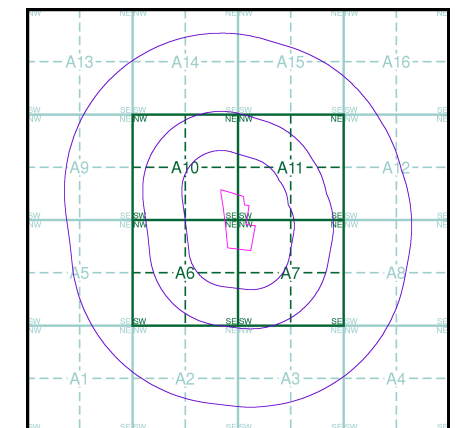
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

NZ36NW	NZ36NE
1967	1967
1:10,560	1:10,560
NZ36SW	NZ36SE
1967	1968
1:10,560	1:10,560

Historical Map - Slice A

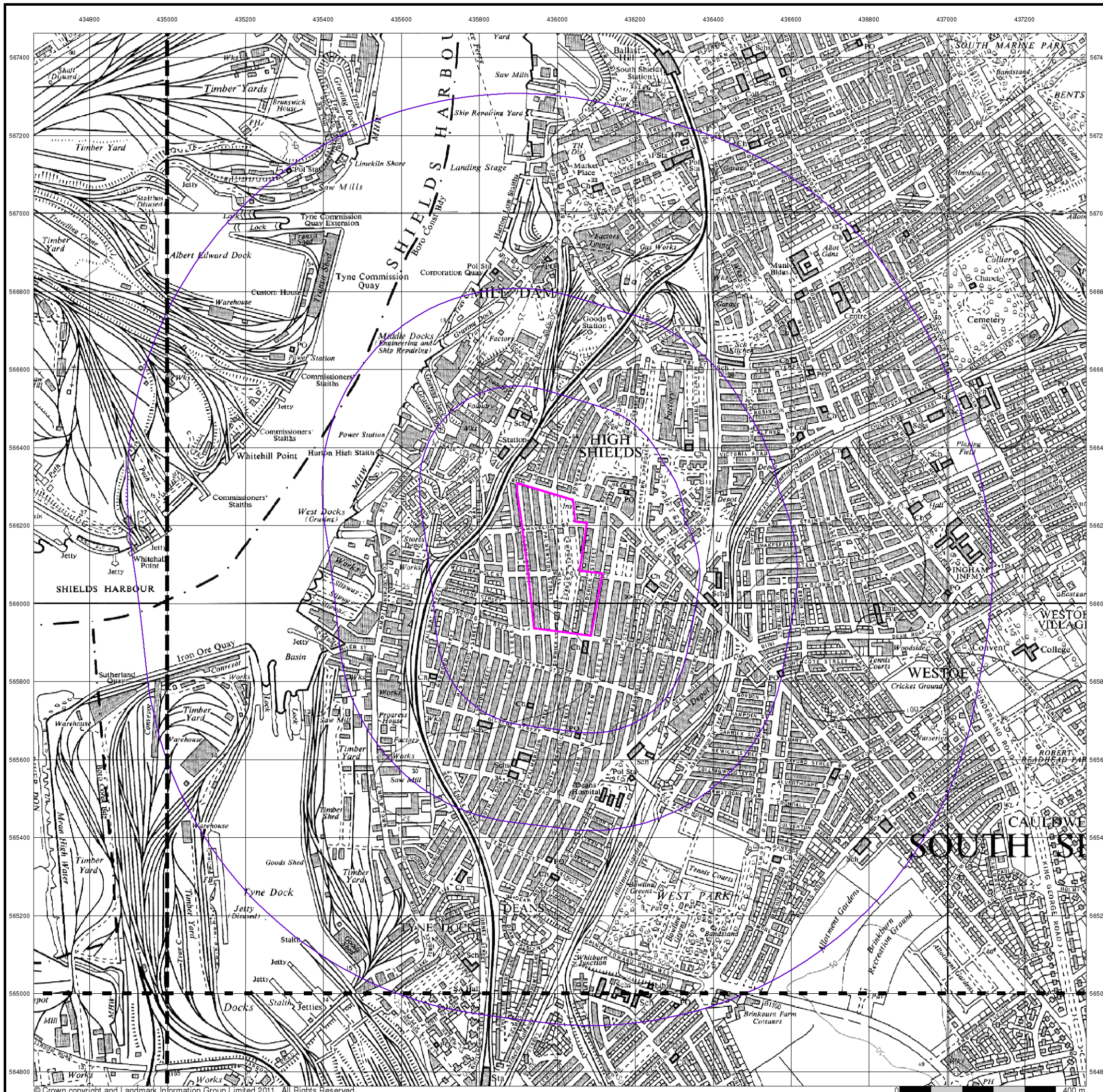


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Ordnance Survey Plan

Published 1973 - 1977

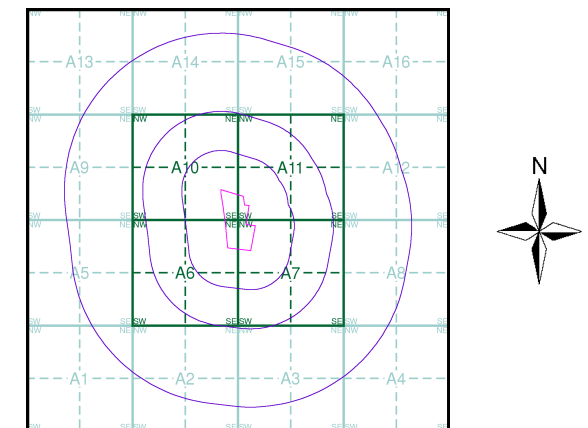
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

NZ36NW 1973 1:10,000	NZ36NE 1976 1:10,000
NZ36SW 1975 1:10,000	NZ36SE 1977 1:10,000

Historical Map - Slice A

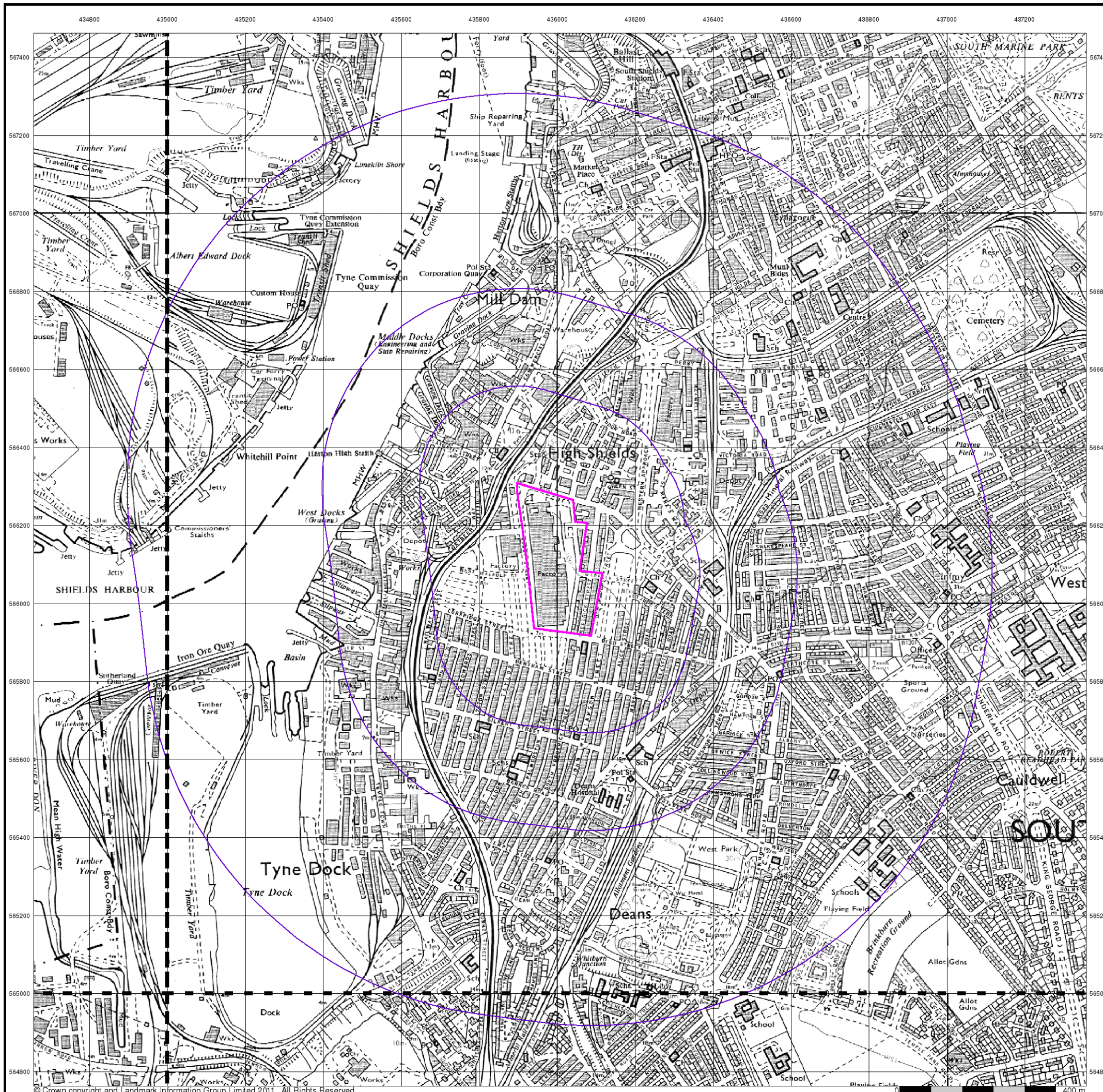


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Sunderland

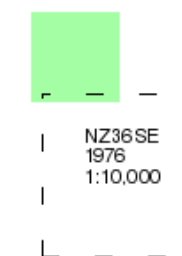
Published 1976

Source map scale - 1:10,000

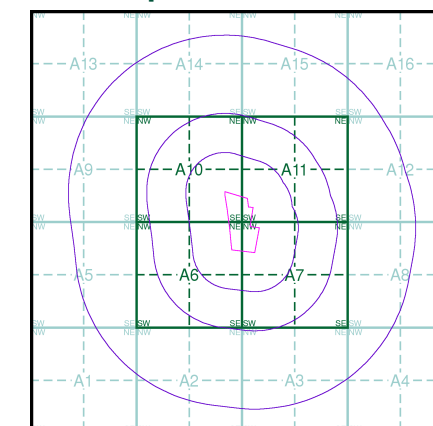
These maps were produced by the Russian military during the Cold War between 1950 and 1997, and cover 103 towns and cities throughout the U.K. The maps are produced at 1:25,000, 1:10,000 and 1:5,000 scale, and show detailed land use, with colour-coded areas for development, green areas, and non-developed areas. Buildings are coloured black and important building uses (such as hospitals, post offices, factories etc.) are numbered, with a numbered key describing their use.

They were produced by the Russians for the benefit of navigation, as well as strategic military sites and transport hubs, for use if they were to have invaded the U.K. The detailed information provided indicates that the areas were surveyed using land-based personnel, on the ground, in the cities that are mapped.

Map Name(s) and Date(s)



Russian Map - Slice A

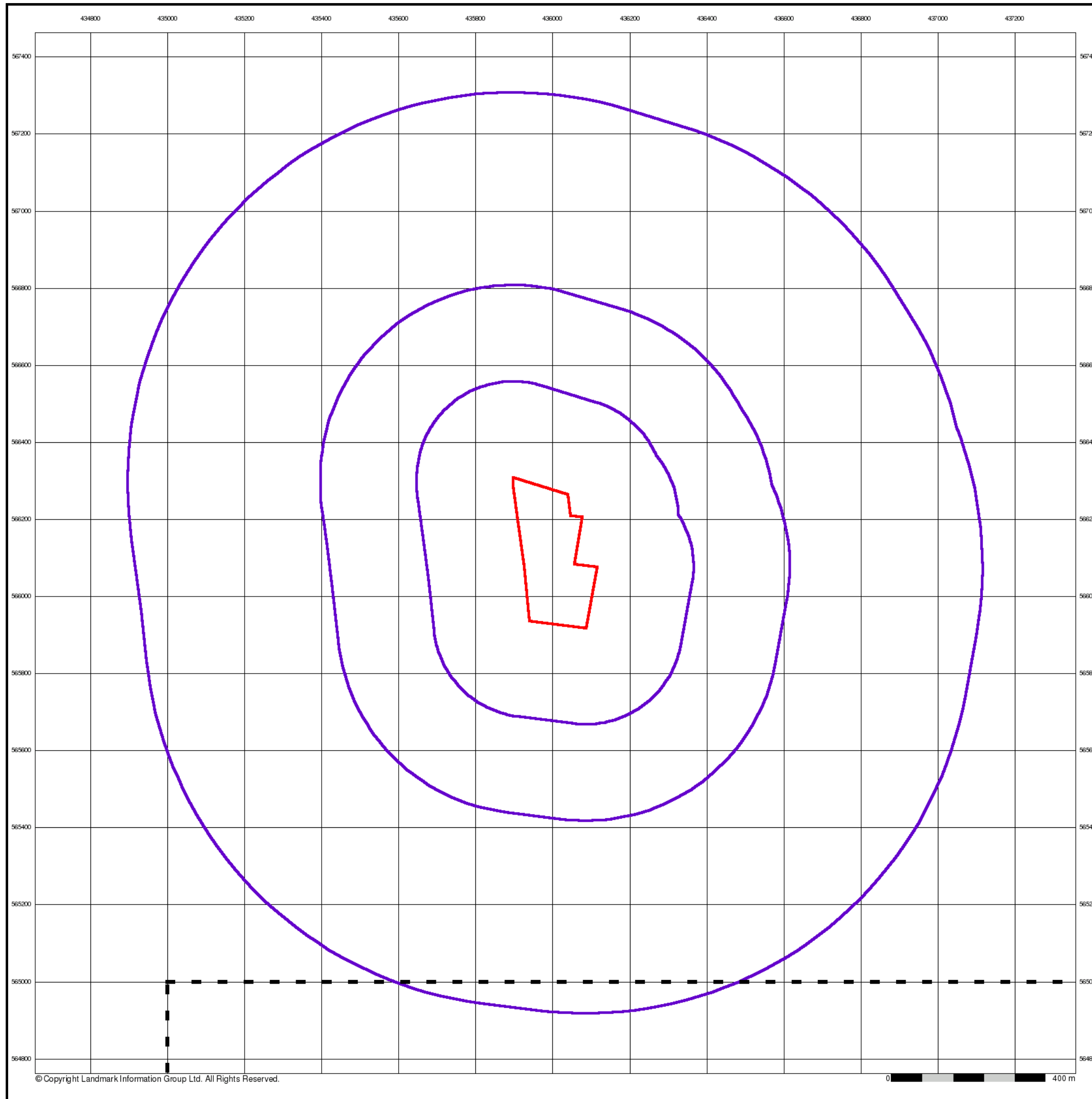


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Newcastle-upon-Tyne

Published 1977

Source map scale - 1:25,000

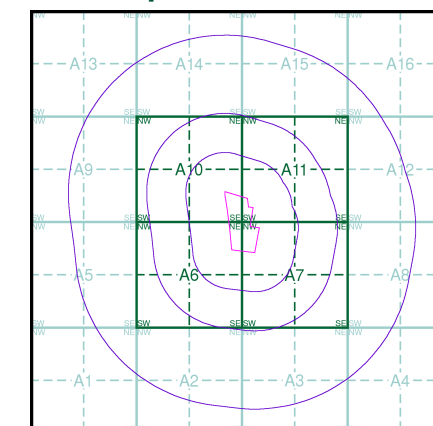
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They were produced by the Russians for the benefit of navigation, as well as strategic military sites and transport hubs, for use if they were to have invaded the U.K. The detailed information provided indicates that the areas were surveyed using land-based personnel, on the ground, in the cities that are mapped.

Map Name(s) and Date(s)

NZ36
1977
1:25,000

Russian Map - Slice A



Order Details

Order Number: 35564740_1_1
Customer Ref: 1004469
National Grid Reference: 435990, 566110
Slice: A
Site Area (Ha): 5.6
Search Buffer (m): 1000

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Ordnance Survey Plan

Published 1982 - 1987

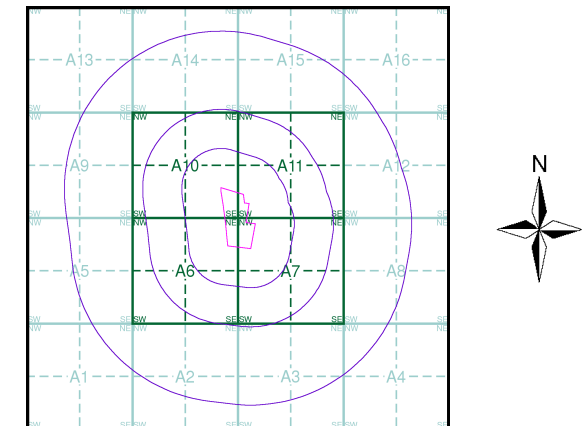
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

NZ36NW 1982 1:10,000	NZ36NE 1986 1:10,000	
<div style="background-color: #90EE90; width: 20px; height: 20px; margin: 0 auto;"></div>		
<table border="1"> <tr> <td>NZ36SE 1987 1:10,000</td> </tr> </table>		NZ36SE 1987 1:10,000
NZ36SE 1987 1:10,000		

Historical Map - Slice A



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Ordnance Survey Plan

Published 1992 - 1995

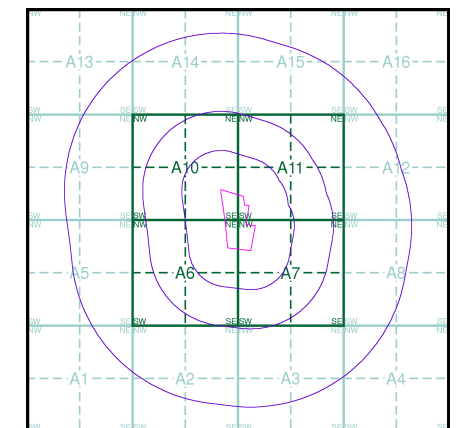
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

NZ36NW 1995 1:10,000	NZ36NE 1993 1:10,000
NZ36SW 1992 1:10,000	

Historical Map - Slice A

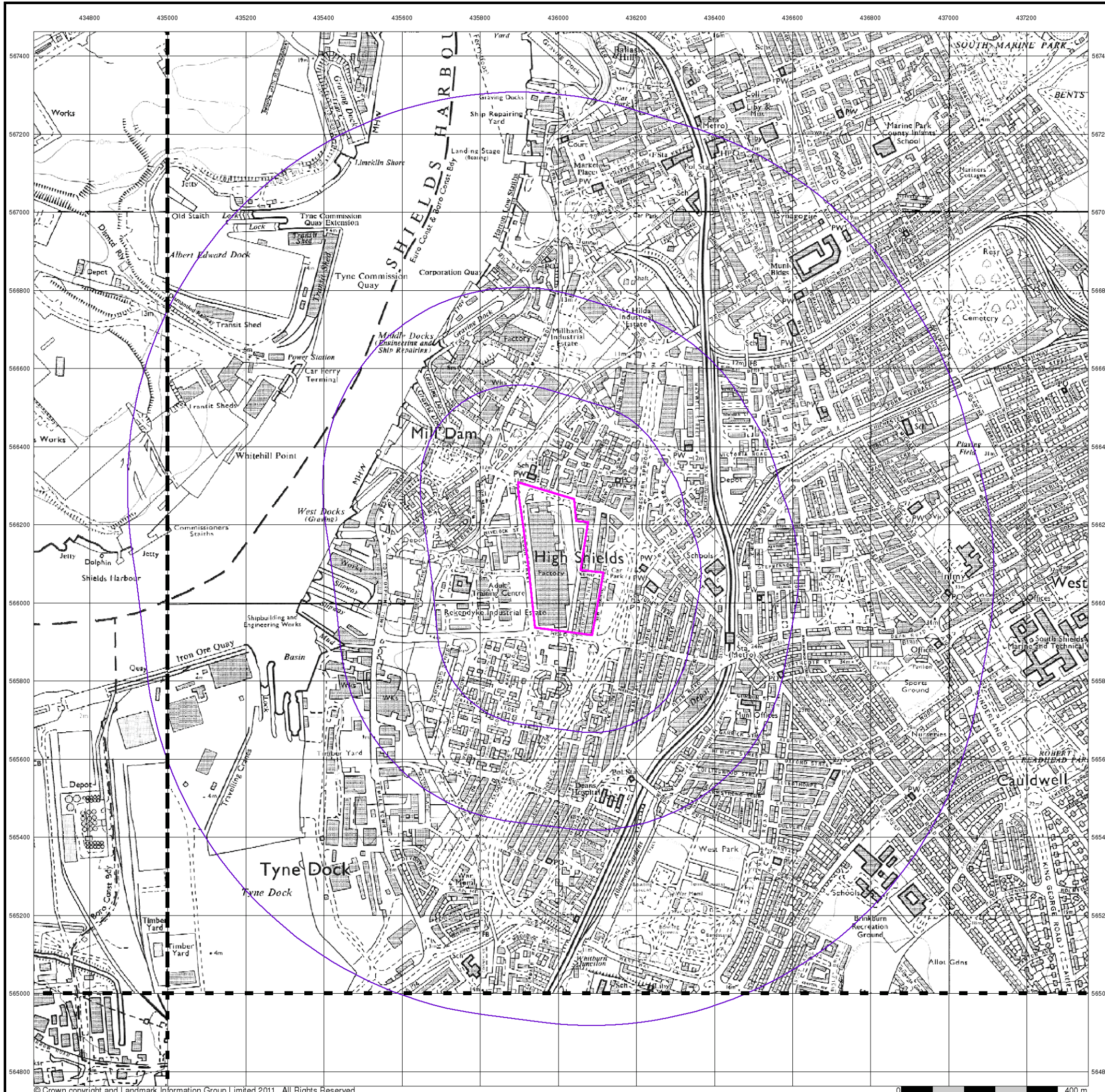


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



10k Raster Mapping

Published 2000

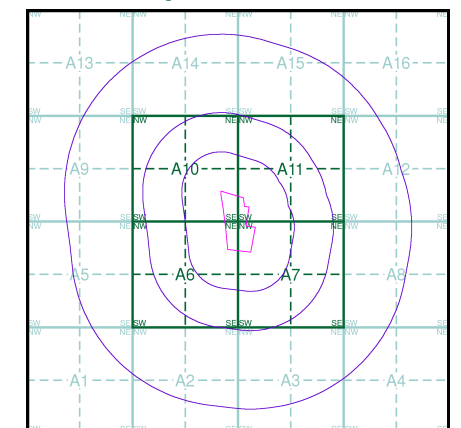
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

NZ36NW 2000 1:10,000	NZ36NE 2000 1:10,000
NZ36SW 2000 1:10,000	NZ36SE 2000 1:10,000

Historical Map - Slice A

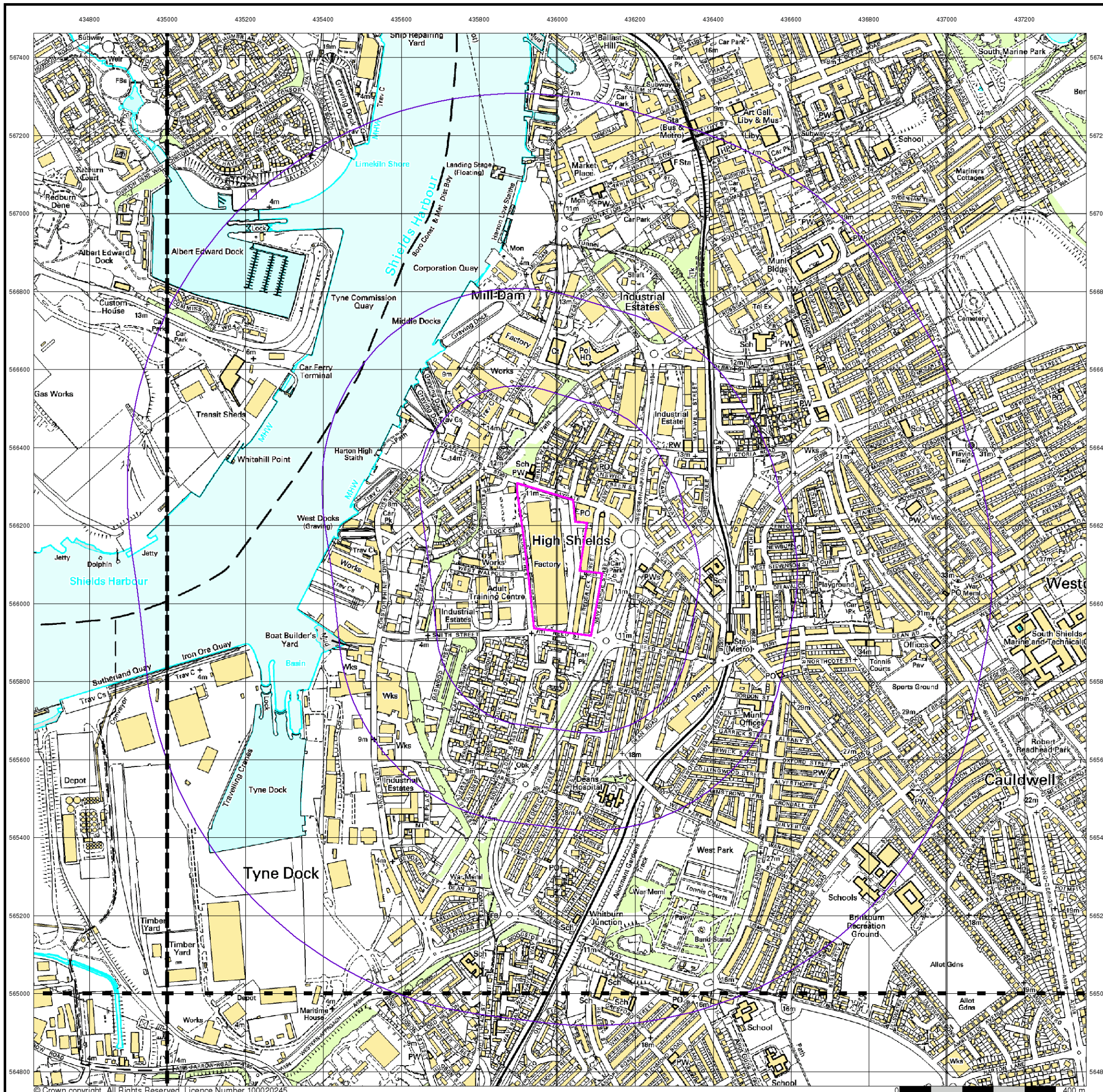


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



10k Raster Mapping

Published 2006

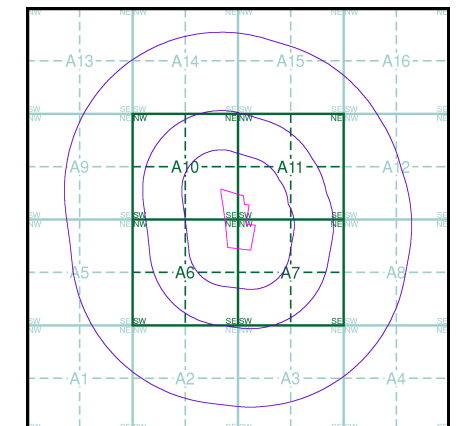
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

NZ36NW 2006 1:10,000	NZ36NE 2006 1:10,000
NZ36SW 2006 1:10,000	NZ36SE 2006 1:10,000

Historical Map - Slice A

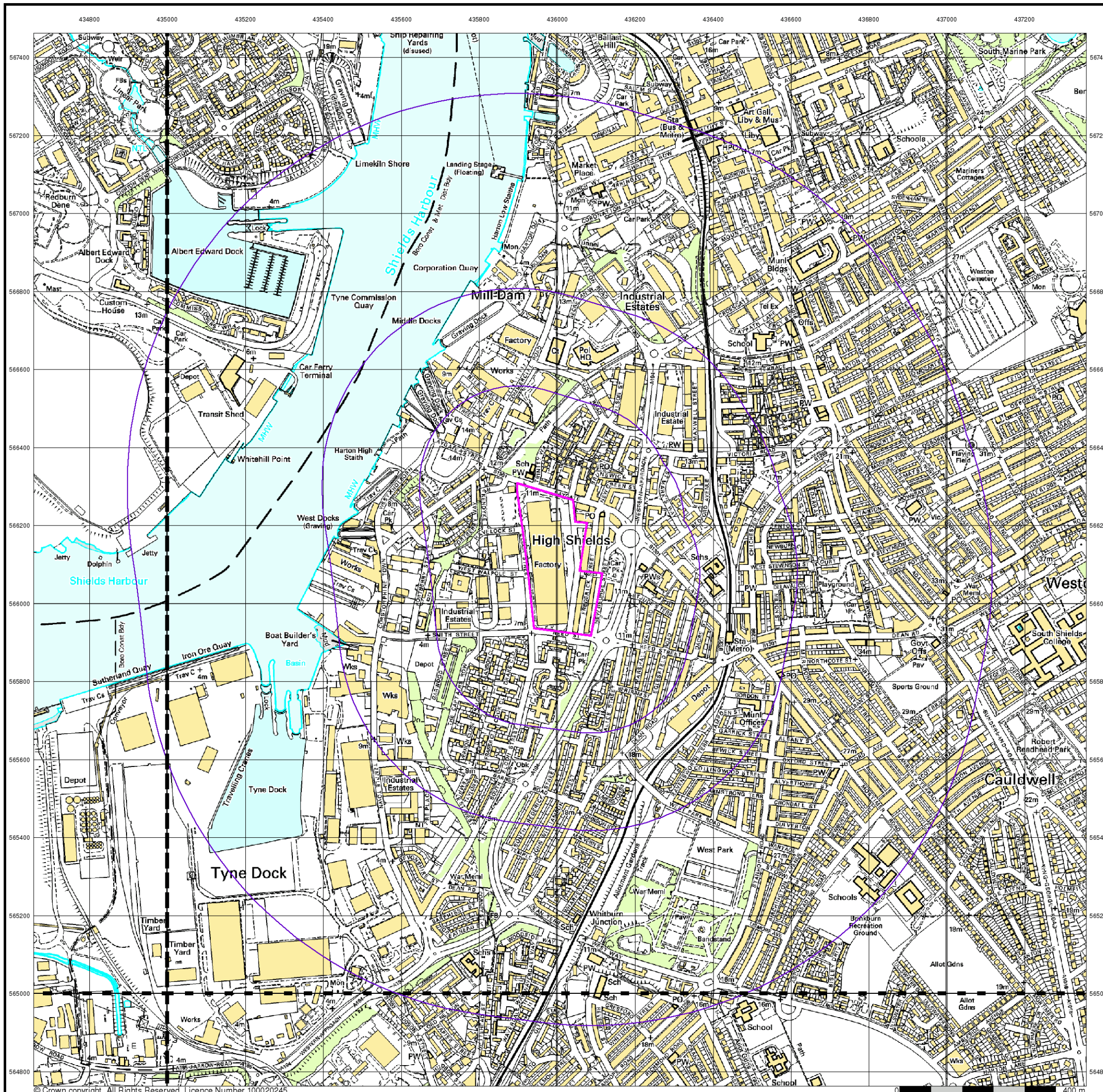


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

Residential Development, Trinity South, SOUTH SHIELDS,
 Tyne and Wear



10k Raster Mapping

Published 2011

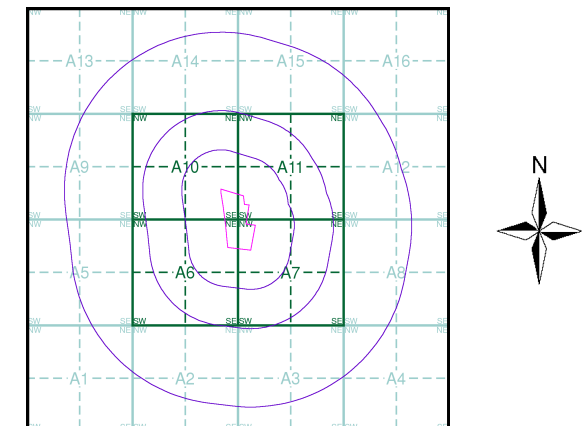
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

NZ36NW 2011 1:10,000	NZ36NE 2011 1:10,000
NZ36SW 2011 1:10,000	NZ36SE 2011 1:10,000

Historical Map - Slice A

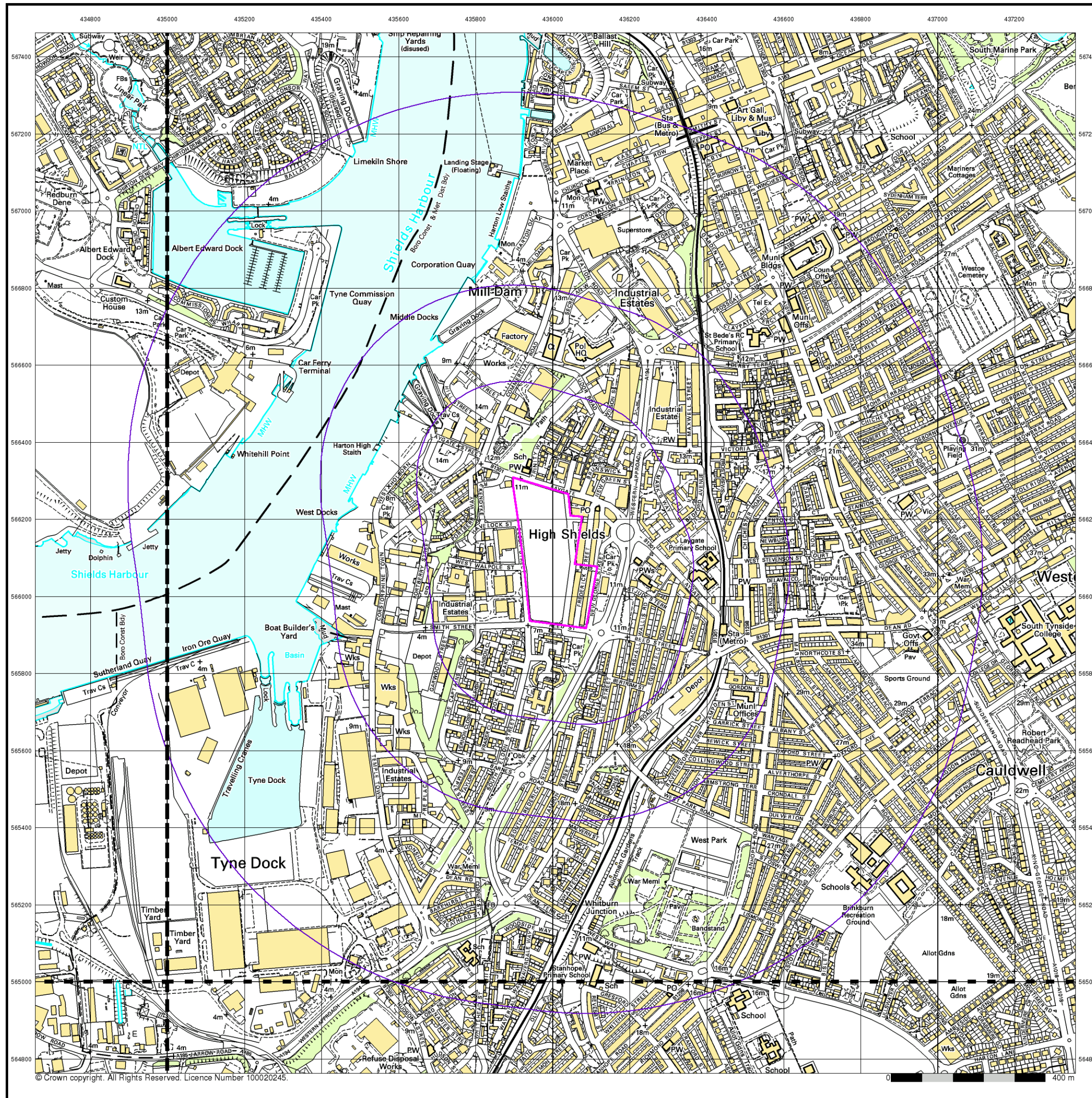


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

Residential Development, Trinity South, SOUTH SHIELDS,
 Tyne and Wear



Historical Mapping Legends

Ordnance Survey County Series and Ordnance Survey Plan 1:2,500

Quarry **Gravel Pit** **Sand Pit**
Clay Pit **Shingle** **Refuse Heap**
Sloping Masonry **Flat Rock**
Marsh **Reeds** **Osiers**
Rough Pasture **Furze** **Wood**
Mixed Wood **Brushwood** **Orchard**
Fir **Ford** **Stepping Stones**
Ferry **Waterfall** **Lock**
Trig. Station **Altitude at Trig. Station**
B.M. 325.9 **Bench Mark** **Surface Level**
Arrow denotes flow of water **Antiquities (site of)**
Cutting **Embankment**
Railway crossing Road **Level Crossing** **Road crossing Railway**
Railway crossing River or Canal **Road over single stream** **Road over River or Canal**
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
County Borough Boundary (England)
County Burgh Boundary (Scotland)
Co. Boro. Bdy.
Co. Burgh Bdy.
BP BS Boundary Post or Stone **P.C.B** Police Call Box
B.R. Bridle Road **P** Pump
E.P Electricity Pylon **S.P** Signal Post
F.B. Foot Bridge **SL** Sluice
F.P. Foot Path **Sp.** Spring
G.P Guide Post or Board **T.C.B** Telephone Call Box
M.S Mile Stone **Tr.** Trough
M.P M.R Mooring Post or Ring **W** Well

Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250

Inactive Quarry, Chalk Pit or Clay Pit **Active Quarry, Chalk Pit or Clay Pit**
Rock **Boulders**
Cliff **Slopes** **Top**
Roofed Building **Glazed Roof Building**
Sloping Masonry **Archway**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Bench Mark** **Antiquity (site of)**
Cave Entrance **Triangulation Station** **Electricity Pylon**
Electricity Transmission Line
County Boundary (Geographical)
County & Civil Parish Boundary
Civil Parish Boundary
Admin. County or County Bor. Boundary
London Borough Boundary
Symbol marking point where boundary mereing changes
BH Beer House **P** Pillar, Pole or Post
BP, BS Boundary Post or Stone **PO** Post Office
Cn, C Capstan, Crane **PC** Public Convenience
Chy Chimney **PH** Public House
D Fn Drinking Fountain **Pp** Pump
EI P Electricity Pillar or Post **SB, S Br** Signal Box or Bridge
FAP Fire Alarm Pillar **SP, SL** Signal Post or Light
FB Foot Bridge **Spr** Spring
GP Guide Post **Tk** Tank or Track
H Hydrant or Hydraulic **TCB** Telephone Call Box
LC Level Crossing **TCP** Telephone Call Post
MH Manhole **Tr** Trough
MP Mile Post or Mooring Post **Wr Pt, Wr T** Water Point, Water Tap
MS Mile Stone **W** Well
NTL Normal Tidal Limit **Wd Pp** Wind Pump

Large-Scale National Grid Data 1:2,500 and 1:1,250

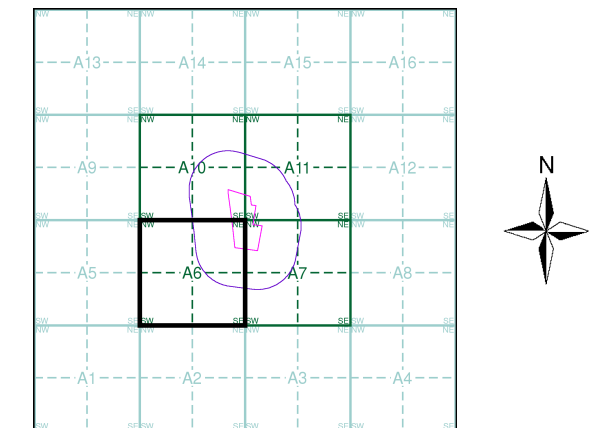
Cliff **Slopes** **Top**
Rock **Rock (scattered)**
Boulders **Boulders (scattered)**
Positioned Boulder **Scree**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Triangulation Station** **Antiquity (site of)**
Electricity Transmission Line **Electricity Pylon**
B.M. 231.60m Bench Mark **Buildings with Building Seed**
Roofed Building **Glazed Roof Building**
Civil parish/community boundary
District boundary
County boundary
Boundary post/stone
Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)
Bks Barracks **P** Pillar, Pole or Post
Bty Battery **PO** Post Office
Cemy Cemetery **PC** Public Convenience
Chy Chimney **Pp** Pump
Cis Cistern **Ppg Sta** Pumping Station
Dismtd Rly Dismantled Railway **PW** Place of Worship
EI Gen Sta Electricity Generating Station **Sewage Ppg Sta** Sewage Pumping Station
EI P Electricity Pole, Pillar **SB, S Br** Signal Box or Bridge
EI Sub Sta Electricity Sub Station **SP, SL** Signal Post or Light
FB Filter Bed **Spr** Spring
Fn / D Fn Fountain / Drinking Ftn. **Tk** Tank or Track
Gas Gov Gas Valve Compound **Tr** Trough
GVC Gas Governor **Wd Pp** Wind Pump
GP Guide Post **Wr Pt, Wr T** Water Point, Water Tap
MH Manhole **Wks** Works (building or area)
MP, MS Mile Post or Mile Stone **W** Well



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Durham	1:2,500	1858 - 1876	2
Northumberland	1:2,500	1861	3
Durham	1:2,500	1897	4
Durham	1:2,500	1915 - 1918	5
Durham	1:2,500	1938 - 1942	6
Ordnance Survey Plan	1:2,500	1956 - 1957	7
Ordnance Survey Plan	1:1,250	1956	8
Ordnance Survey Plan	1:1,250	1961 - 1971	9
Additional SIMs	1:1,250	1961 - 1986	10
Ordnance Survey Plan	1:1,250	1968 - 1989	11
Ordnance Survey Plan	1:2,500	1970	12
Supply of Unpublished Survey Information	1:1,250	1974 - 1975	13
Ordnance Survey Plan	1:1,250	1975	14
Additional SIMs	1:1,250	1981 - 1992	15
Additional SIMs	1:1,250	1986 - 1988	16
Additional SIMs	1:1,250	1992	17
Large-Scale National Grid Data	1:1,250	1993	18
Large-Scale National Grid Data	1:1,250	1994 - 1996	19
Large-Scale National Grid Data	1:1,250	1997	20

Historical Map - Segment A6



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk

Durham

Published 1858 - 1876

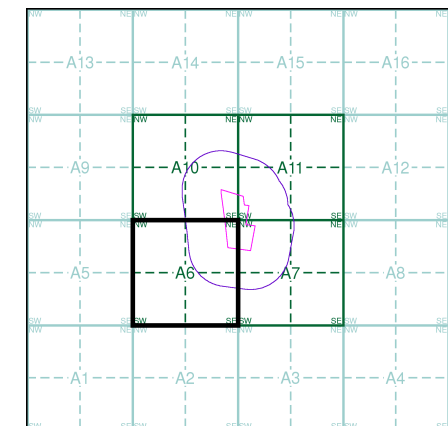
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

003_08 1858 1:2,500	004_05 1858 1:2,500
003_12 1876 1:2,500	004_09 1874 1:2,500

Historical Map - Segment A6



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
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 Site Area (Ha): 5.6
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Site Details

Residential Development, Trinity South, SOUTH SHIELDS,
 Tyne and Wear



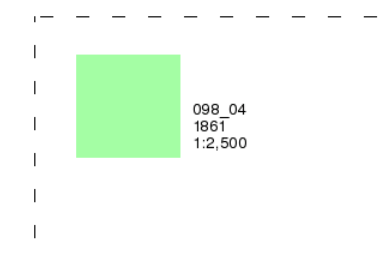
Northumberland

Published 1861

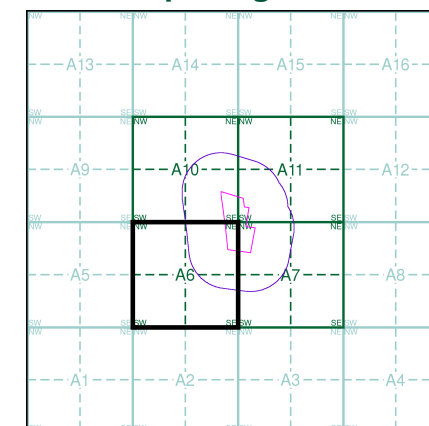
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A6

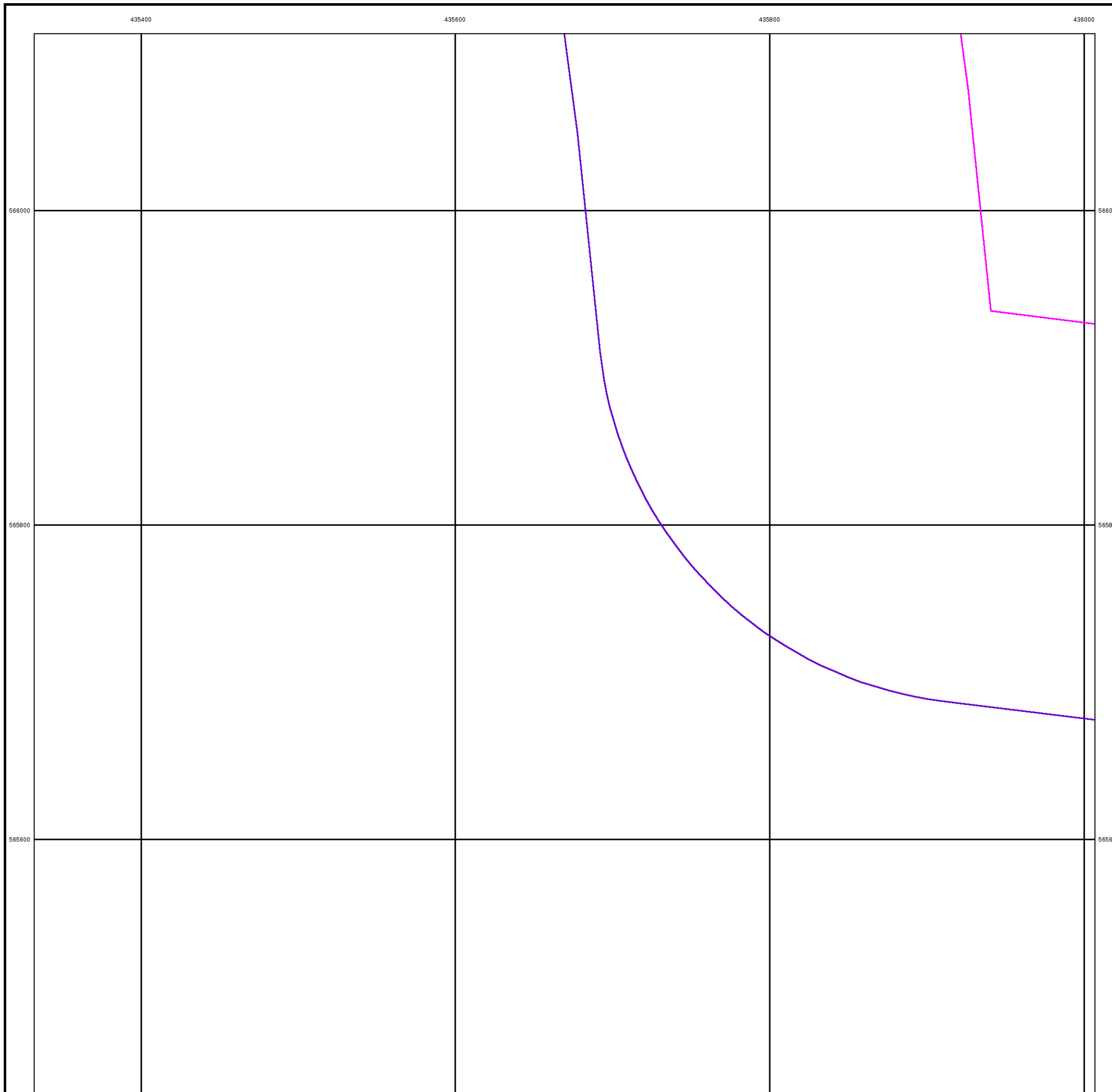


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS,
 Tyne and Wear



Durham

Published 1897

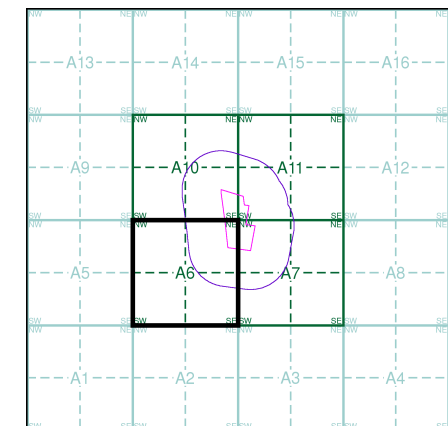
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

003_08 1897 1:2,500	004_05 1897 1:2,500
003_12 1897 1:2,500	004_09 1897 1:2,500

Historical Map - Segment A6

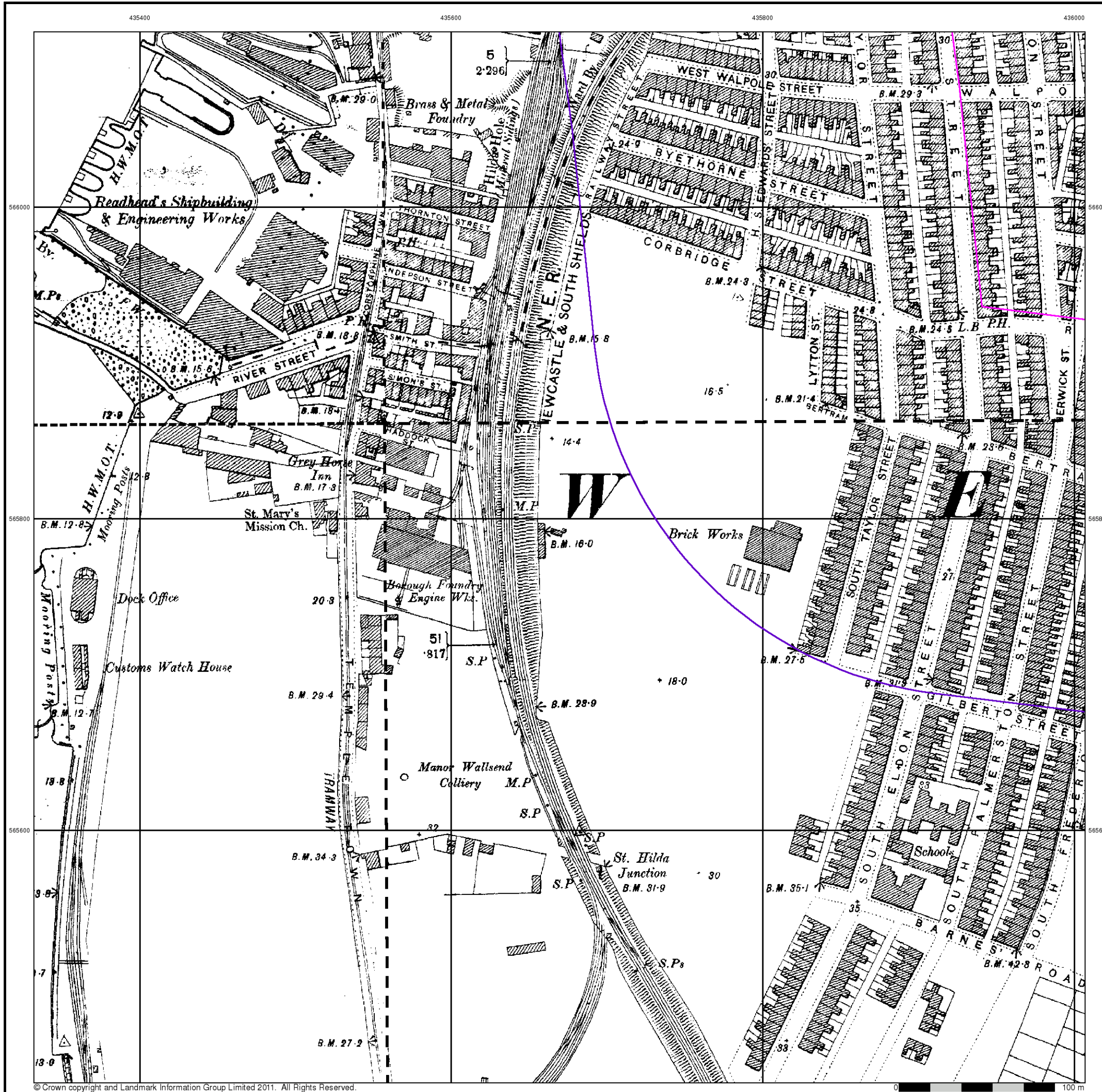


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Durham

Published 1915 - 1918

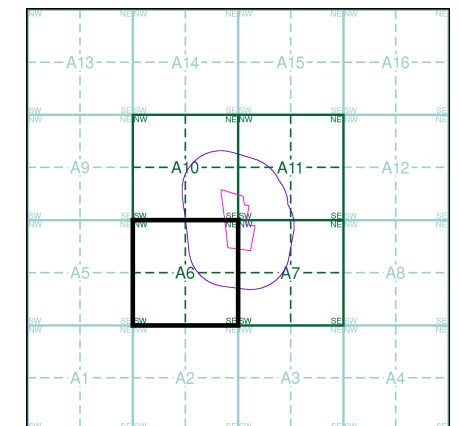
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

003_08 1916 1:2,500	004_05 1915 1:2,500
003_12 1918 1:2,500	004_09 1916 1:2,500

Historical Map - Segment A6

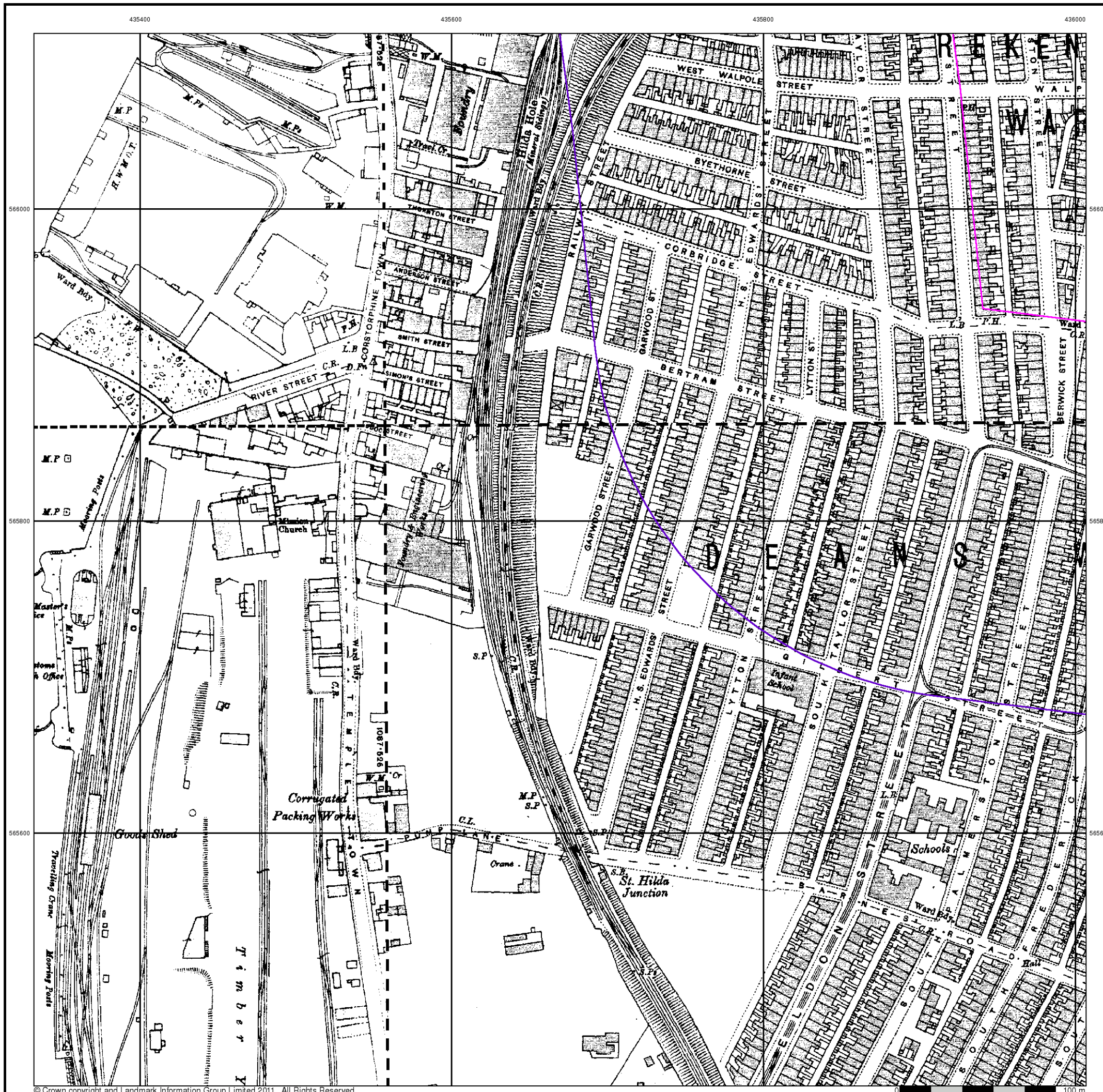


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Durham

Published 1938 - 1942

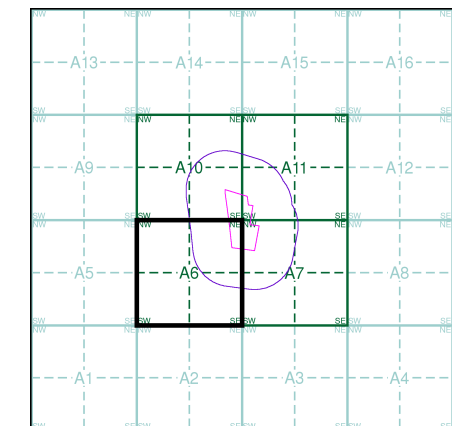
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

003_08 1938 1:2,500		
	1	
003_12 1942 1:2,500		004_09 1942 1:2,500

Historical Map - Segment A6

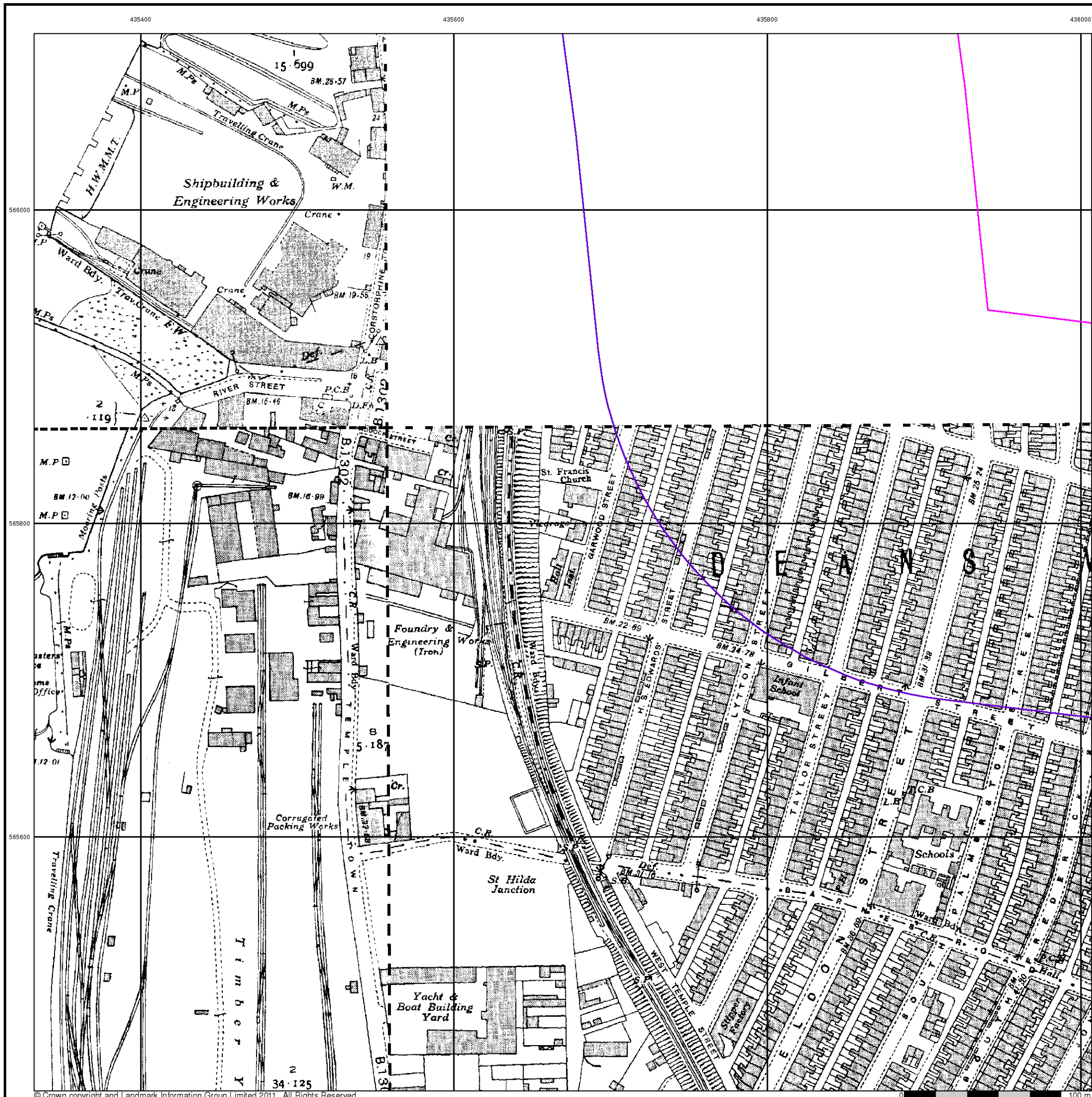


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



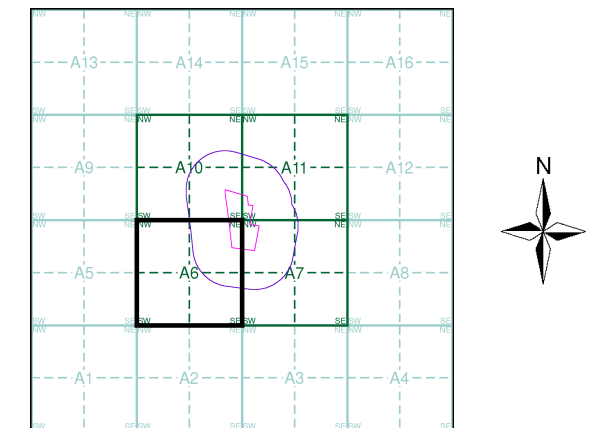
Ordnance Survey Plan
Published 1956 - 1957
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NZ3566	NZ3666
1956	1956
1:2,500	1:2,500
NZ3565	NZ3665
1956	1957
1:2,500	1:2,500

Historical Map - Segment A6

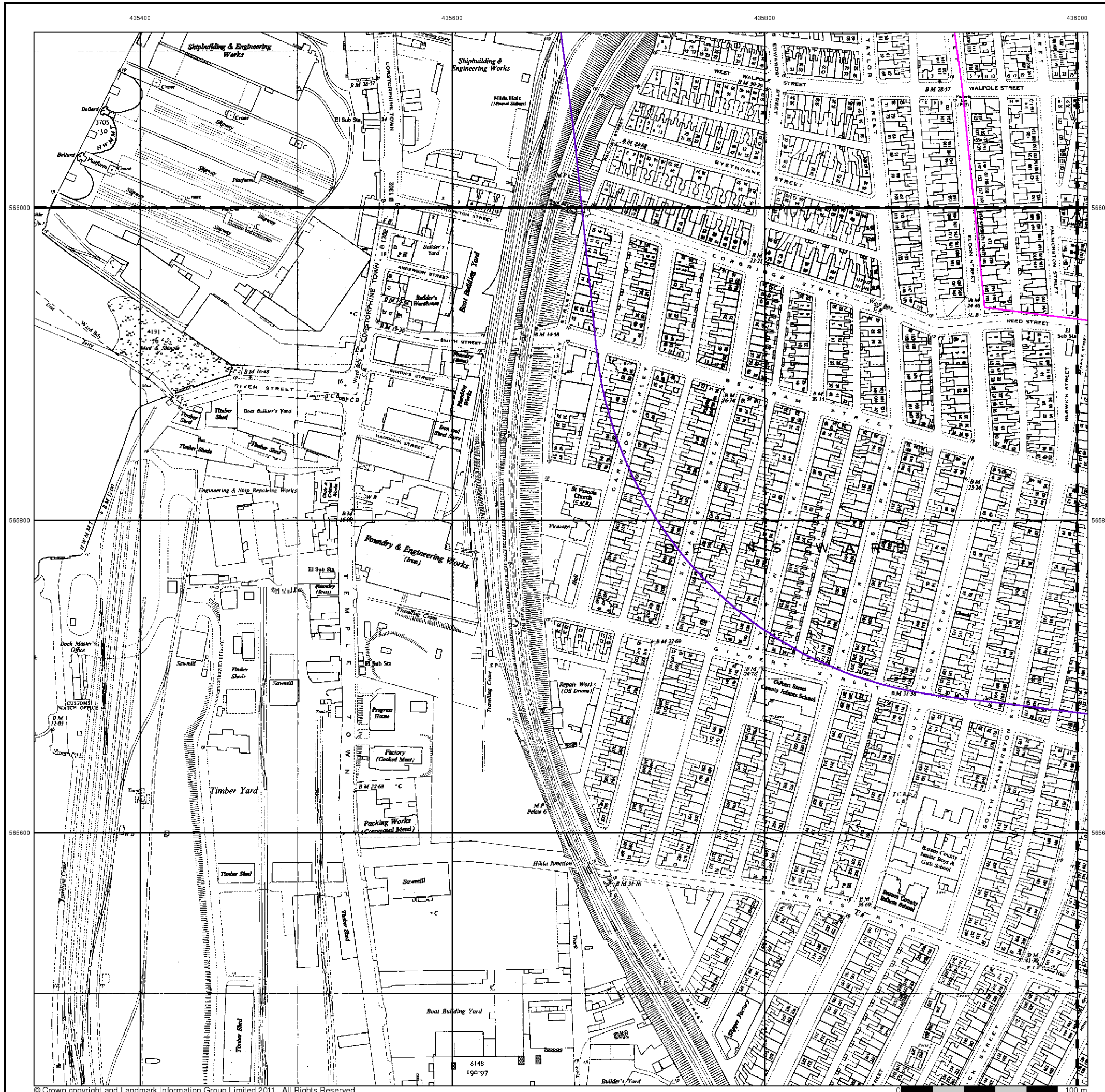


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Ordnance Survey Plan

Published 1956

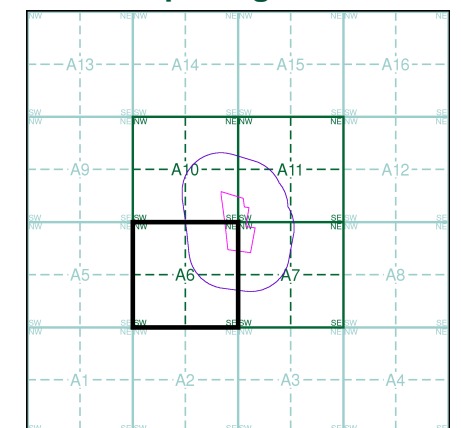
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NZ3566SW	NZ3566SE	NZ3666SW
1956	1956	1956
1:1,250	1:1,250	1:1,250
NZ3565NW	NZ3565NE	NZ3665NW
1956	1956	1956
1:1,250	1:1,250	1:1,250
NZ3565SW	NZ3565SE	NZ3665SW
1956	1956	1956
1:1,250	1:1,250	1:1,250

Historical Map - Segment A6



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



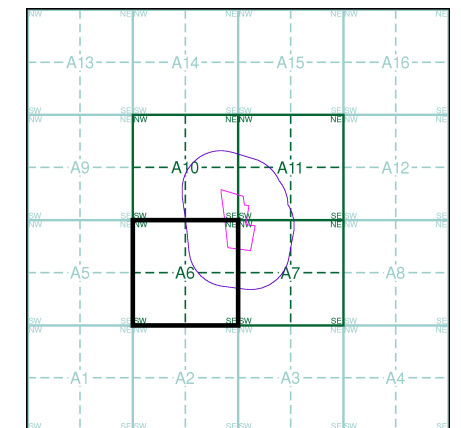
Ordnance Survey Plan
Published 1961 - 1971
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NZ3566SW	NZ3566SE	NZ3666SW
1968	1968	1963
1:1,250	1:1,250	1:1,250
NZ3565NW	NZ3565NE	NZ3665NW
1971	1971	1961
1:1,250	1:1,250	1:1,250
NZ3565SW	NZ3565SE	NZ3665SW
1971	1968	1968
1:1,250	1:1,250	1:1,250

Historical Map - Segment A6



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Additional SIMs

Published 1961 - 1986

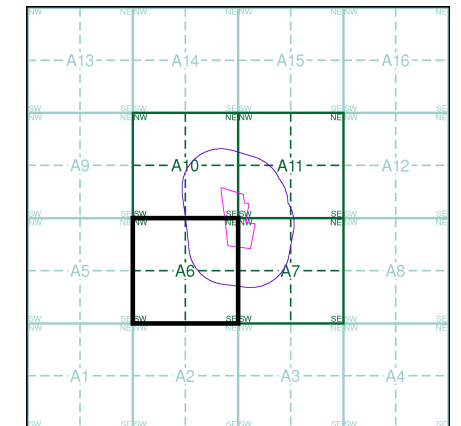
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

NZ3566SW	NZ3566SE	NZ3666SW
1981	1982	1986
1:1,250	1:1,250	1:1,250
NZ3565NW	NZ3565NE	NZ3665NW
1982	1982	1981
1:1,250	1:1,250	1:1,250
NZ3565SW	NZ3565SE	NZ3665SW
1986	1983	1985
1:1,250	1:1,250	1:1,250

Historical Map - Segment A6

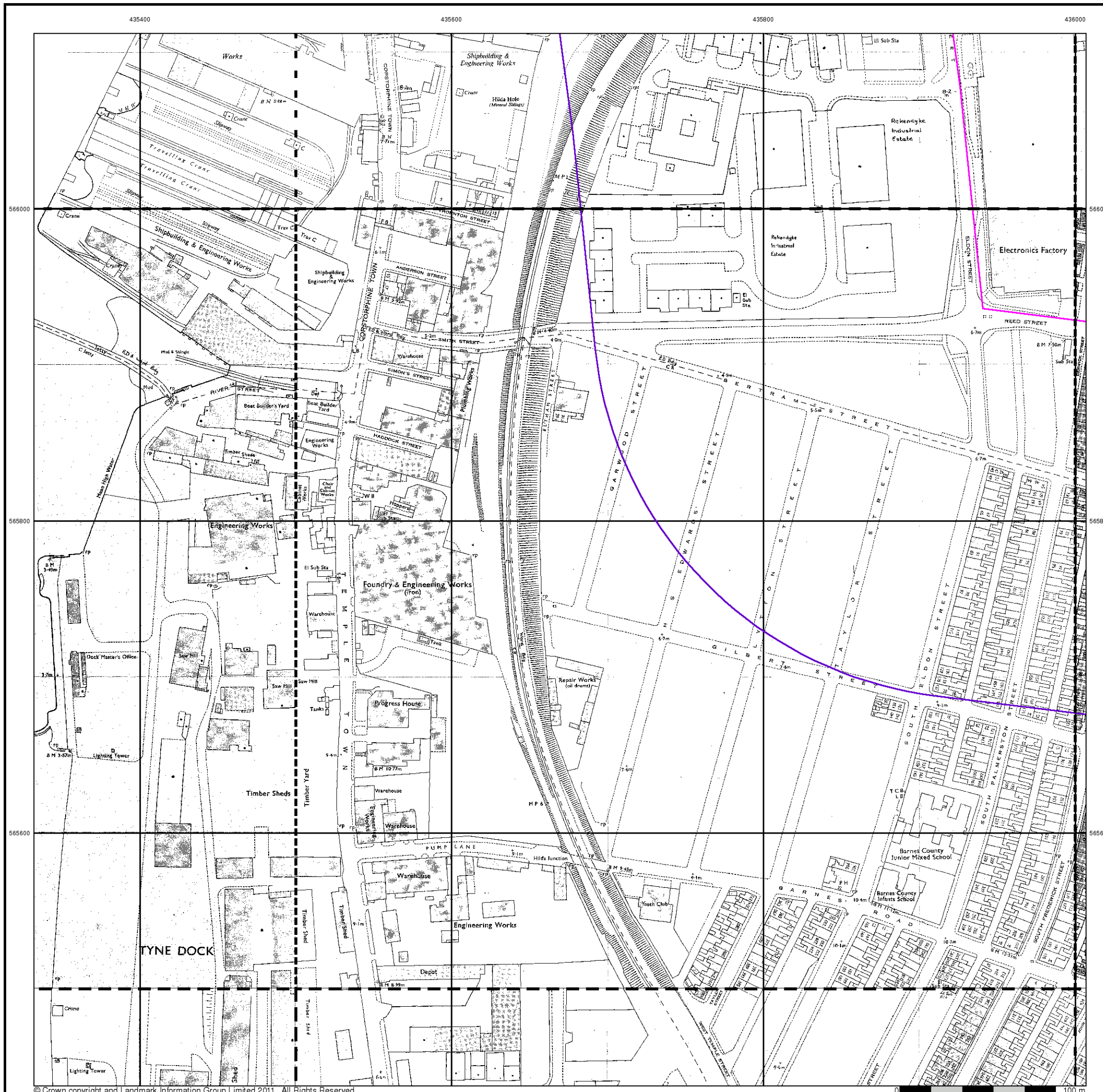


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



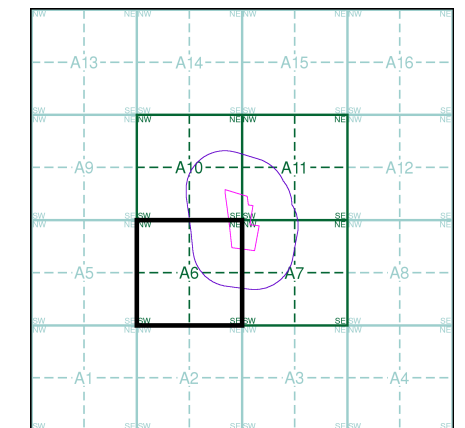
Ordnance Survey Plan
Published 1968 - 1989
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NZ3566SE	NZ3666SW
1989	1968
1:1,250	1:1,250
NZ3565NE	NZ3665NW
1989	1987
1:1,250	1:1,250
NZ3565SE	
1989	
1:1,250	

Historical Map - Segment A6

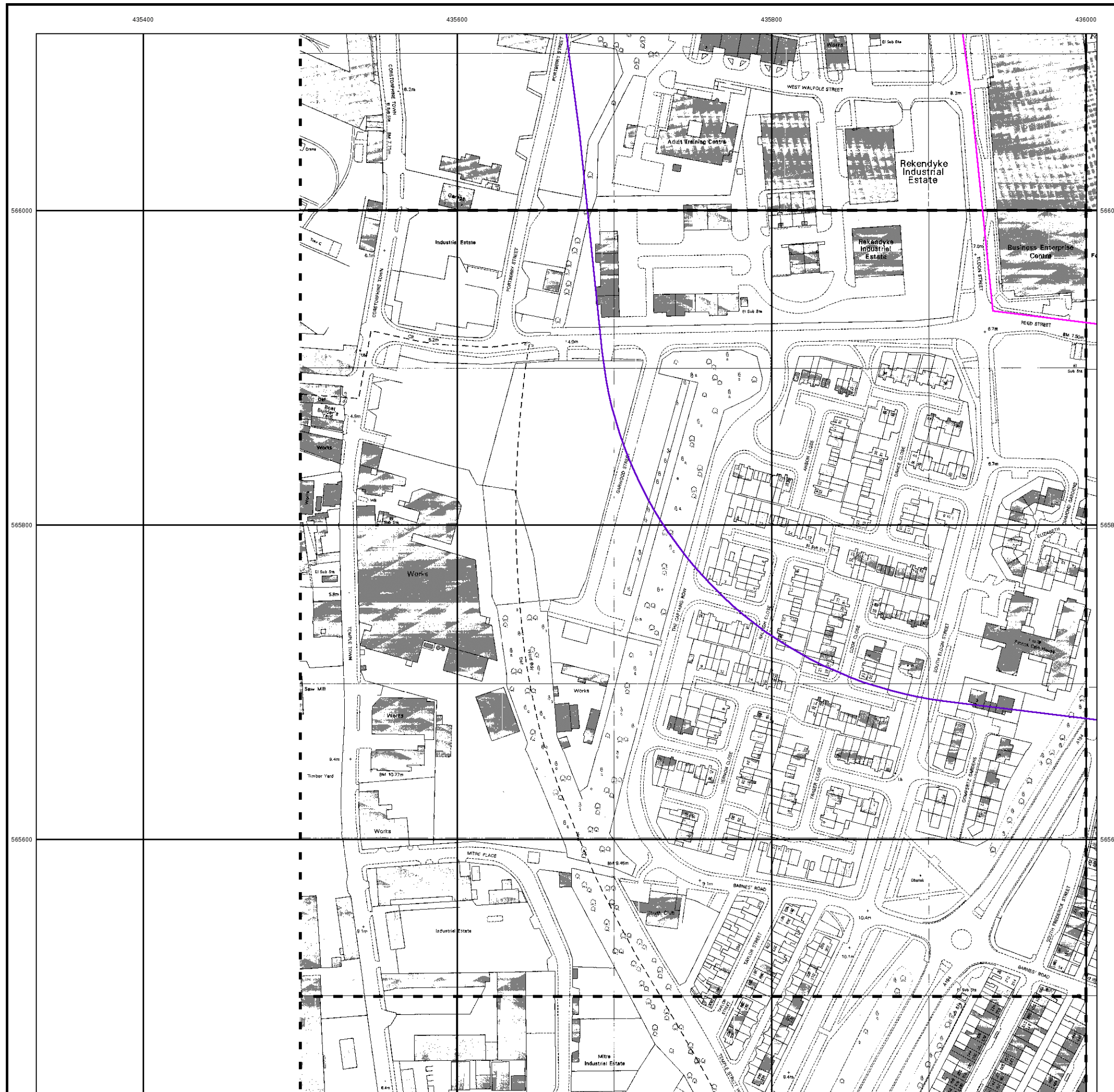


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Ordnance Survey Plan

Published 1970

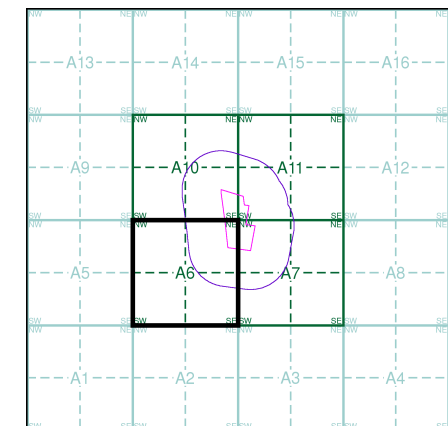
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NZ3566 1970 1:2,500	NZ3666 1970 1:2,500
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Historical Map - Segment A6

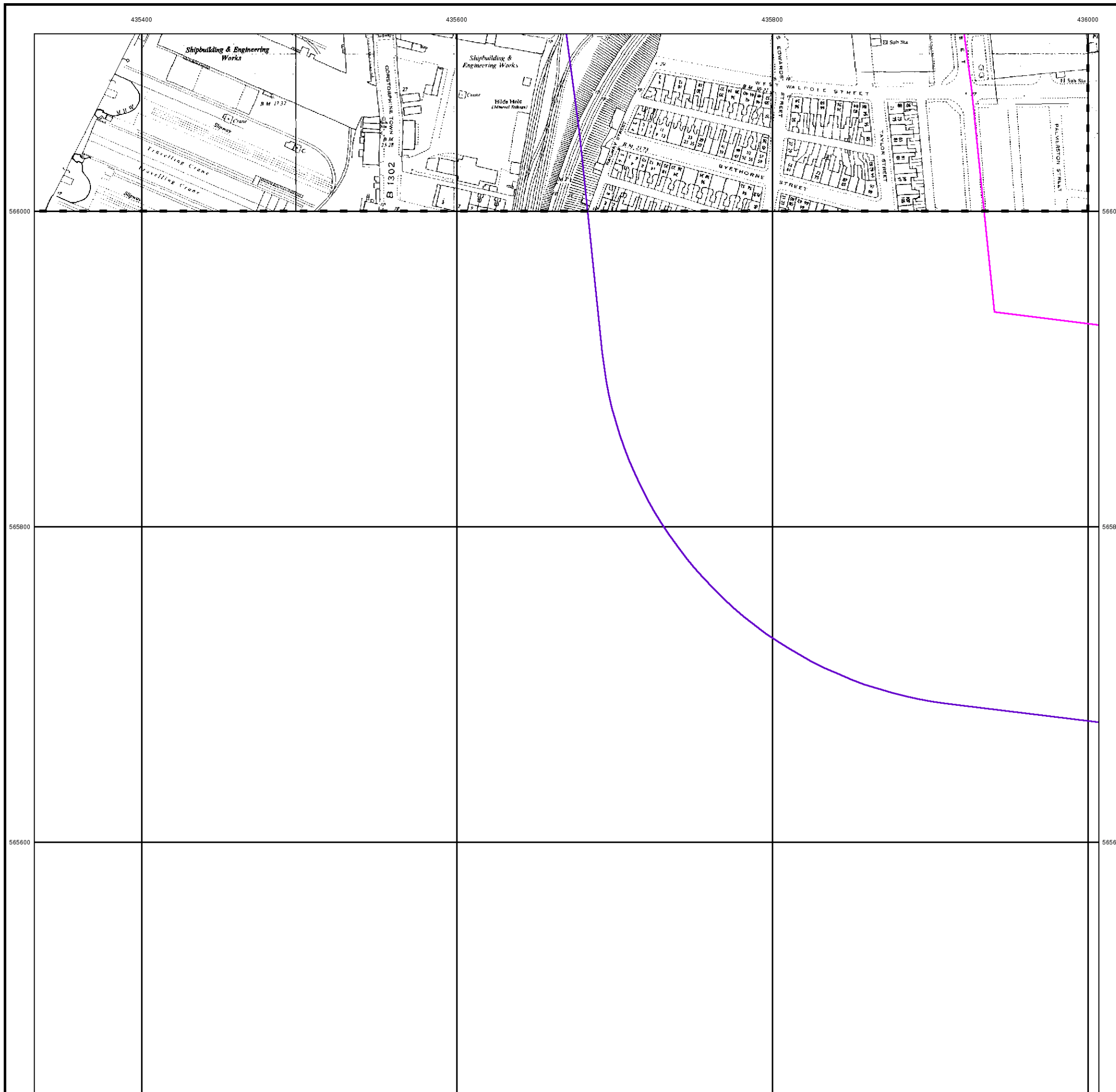


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Supply of Unpublished Survey Information

Published 1974 - 1975

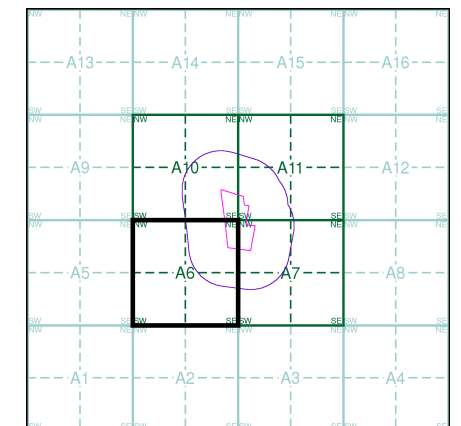
Source map scale - 1:1,250

SUSI maps (Supply of Unpublished Survey Information) were produced between 1972 and 1977, mainly for internal use at Ordnance Survey. These were more of a 'work-in-progress' plan as they showed updates of individual areas on a map. These maps were unpublished, and they do not represent a single moment in time. They were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

NZ3566SE	NZ3666SW
1974	1974
1:1,250	1:1,250
NZ3565NW	NZ3665NW
1974	1975
1:1,250	1:1,250
NZ3565SW	NZ3665SW
1974	1974
1:1,250	1:1,250

Historical Map - Segment A6

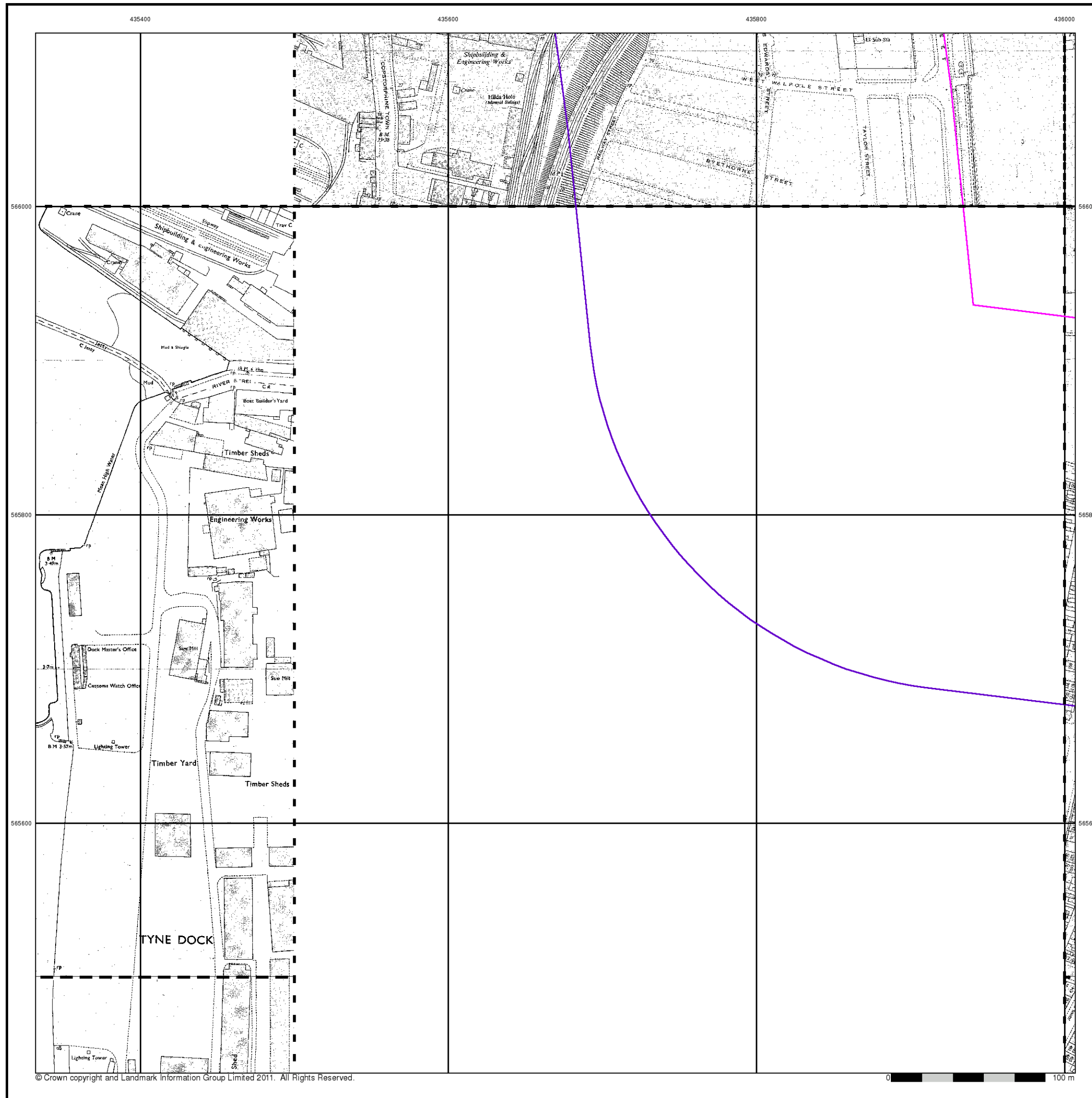


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



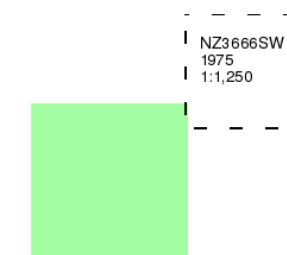
Ordnance Survey Plan

Published 1975

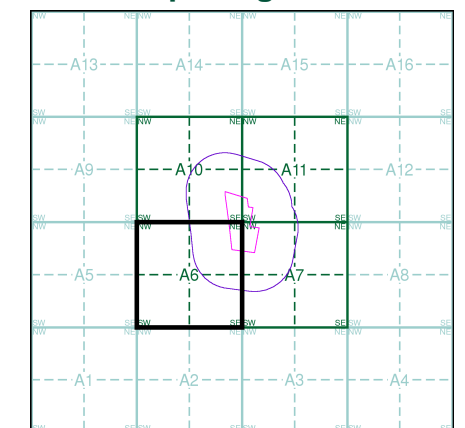
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A6

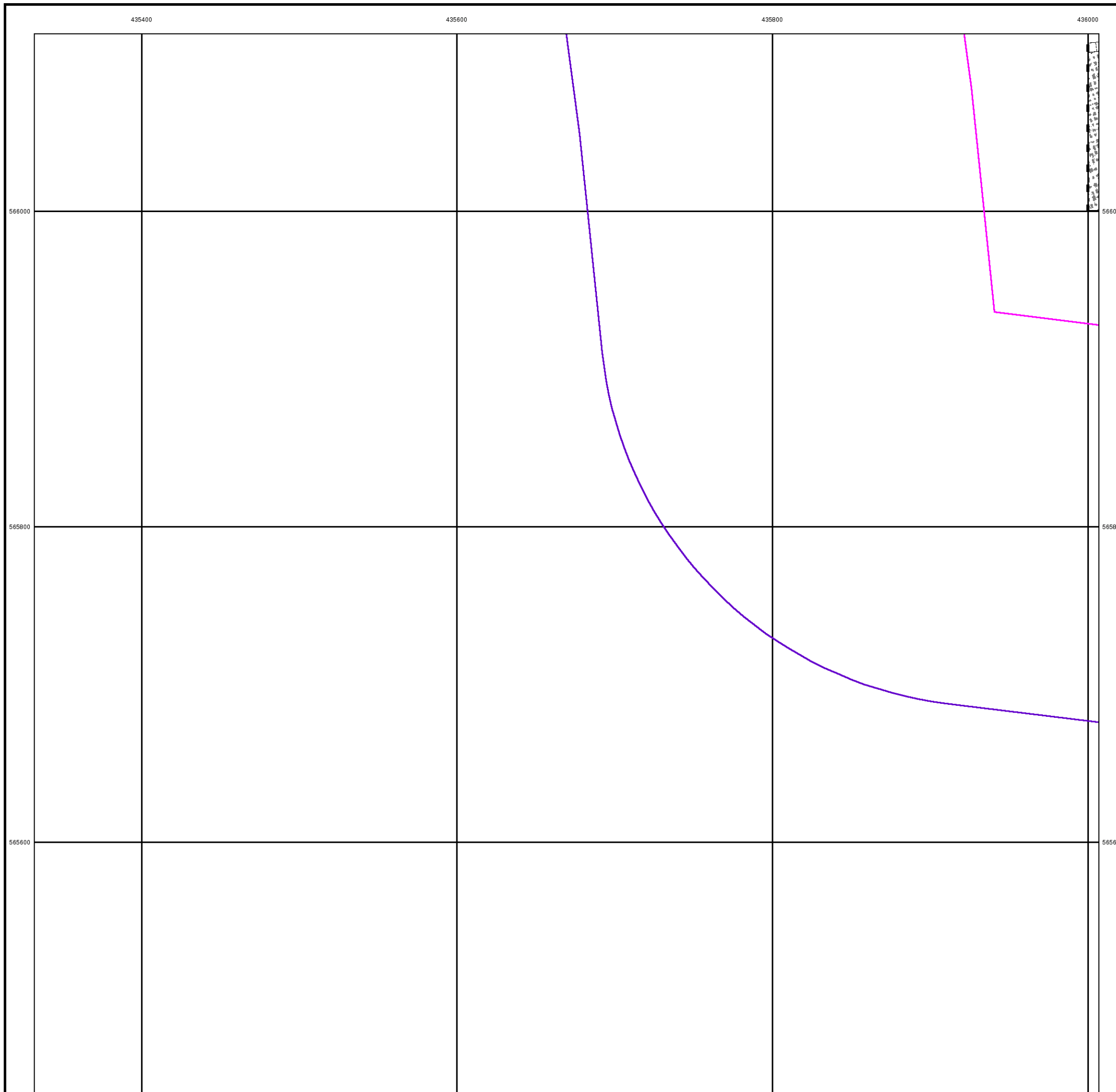


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Additional SIMs

Published 1981 - 1992

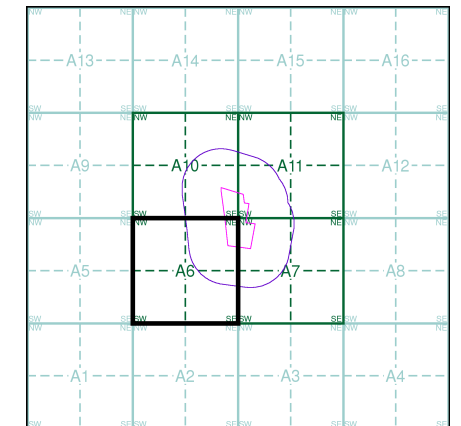
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

NZ3566SW 1990 1:1,250	NZ3666SW 1989 1:1,250
NZ3565NE 1984 1:1,250	NZ3665NW 1981 1:1,250
NZ3565SW 1992 1:1,250	NZ3565SE 1985 1:1,250

Historical Map - Segment A6



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



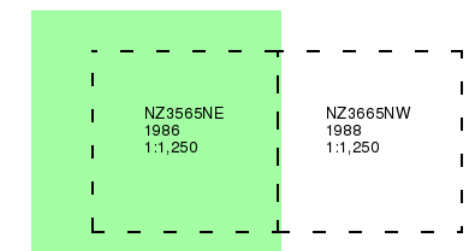
Additional SIMs

Published 1986 - 1988

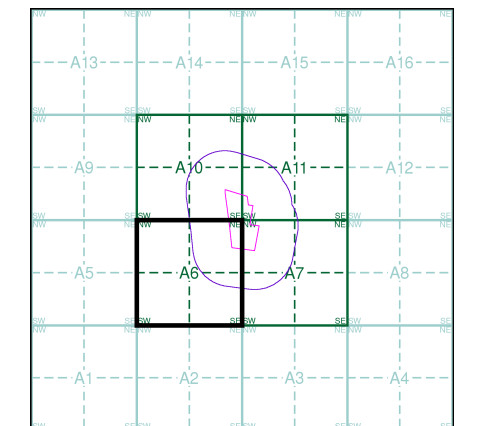
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A6



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
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Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



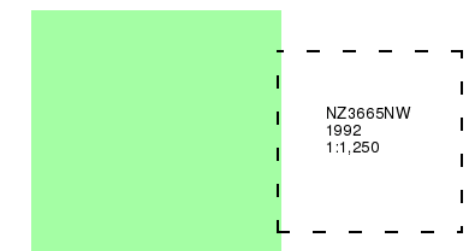
Additional SIMs

Published 1992

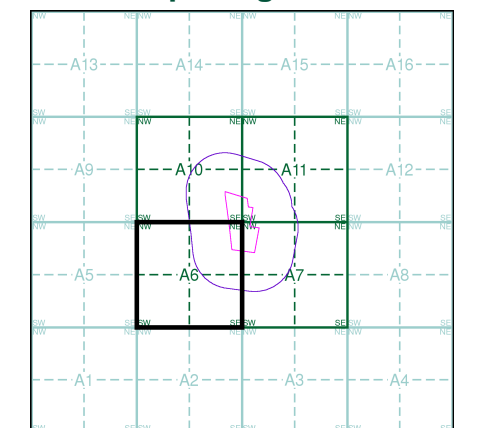
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A6

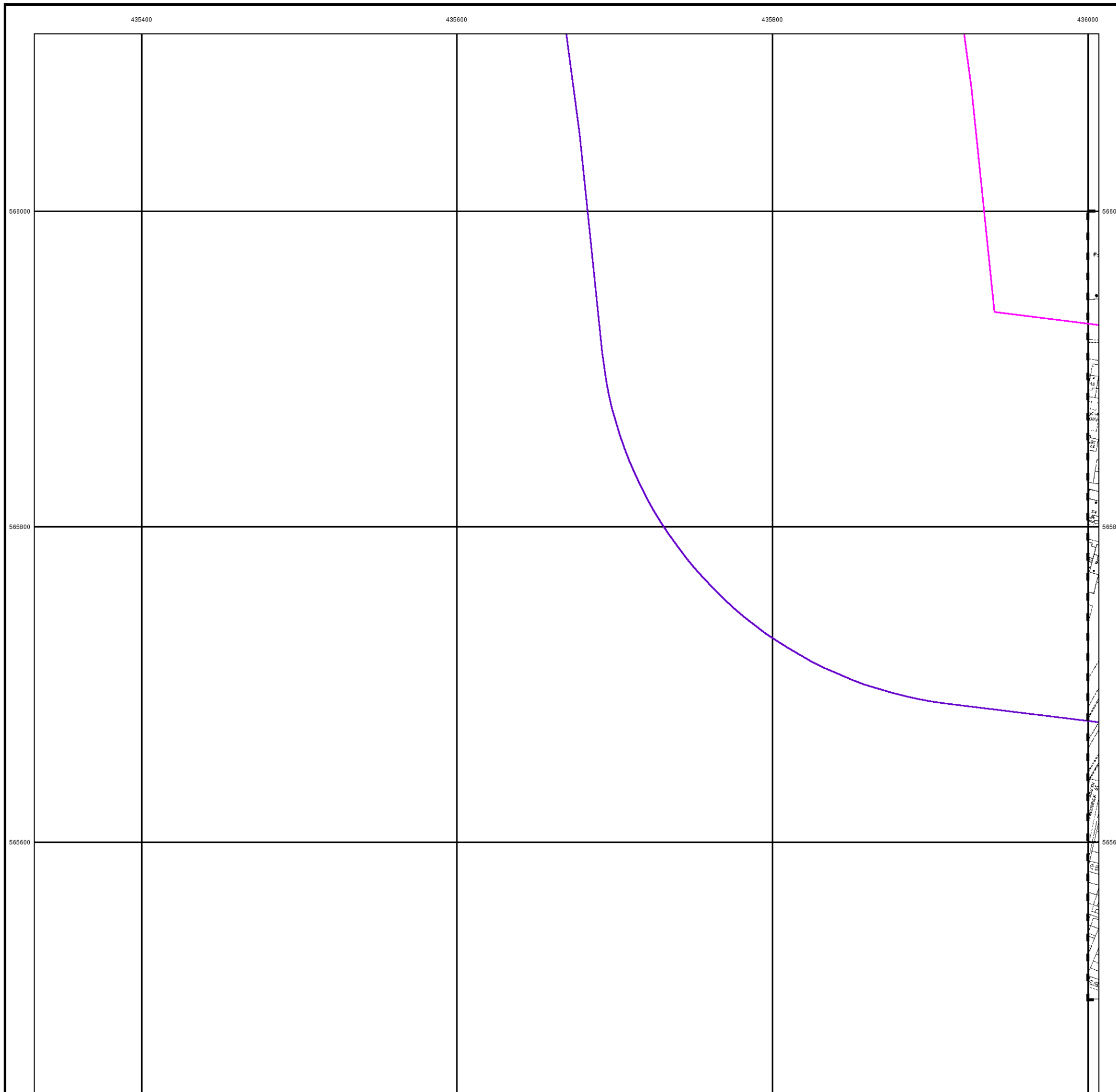


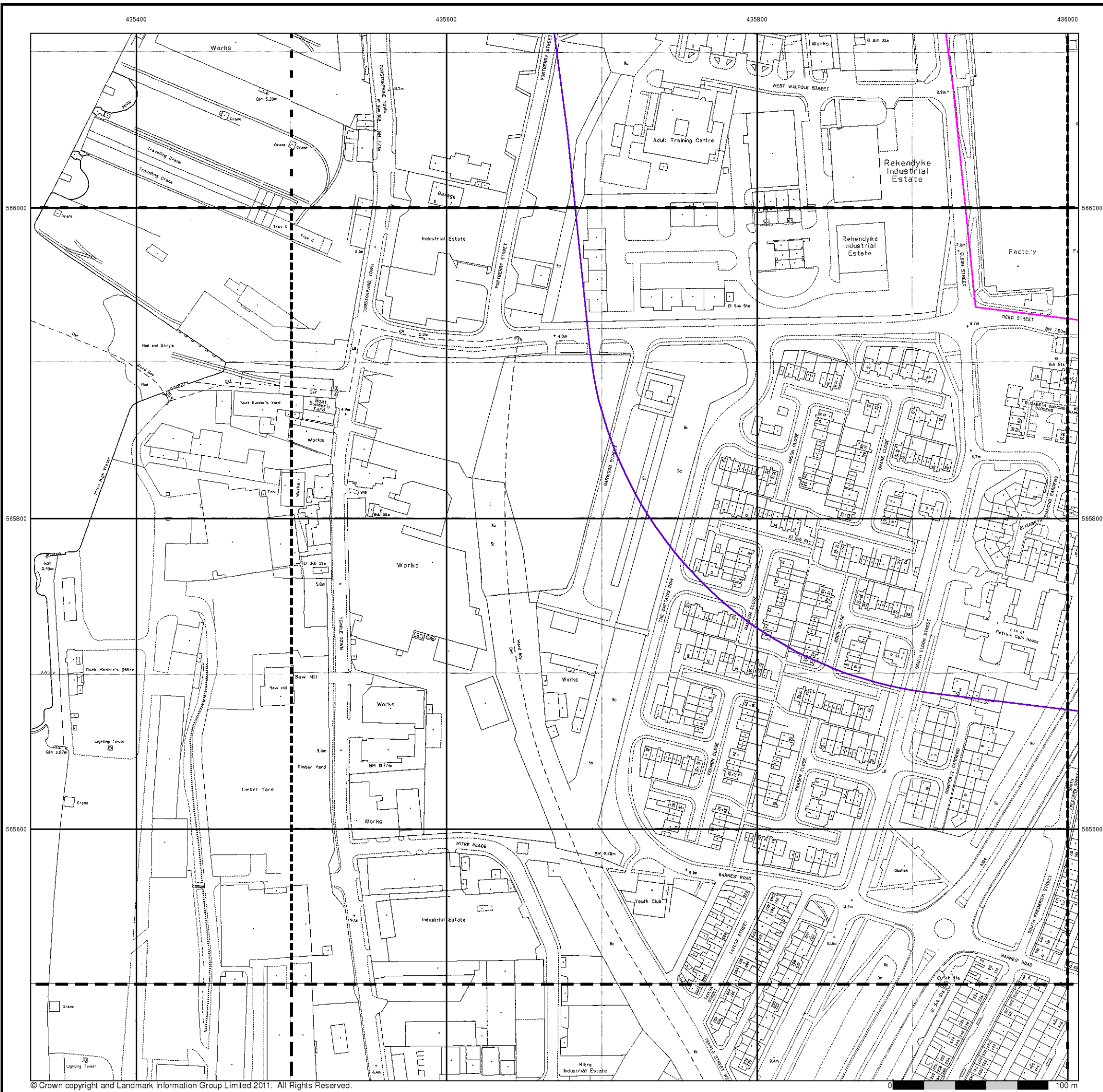
Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear





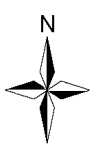
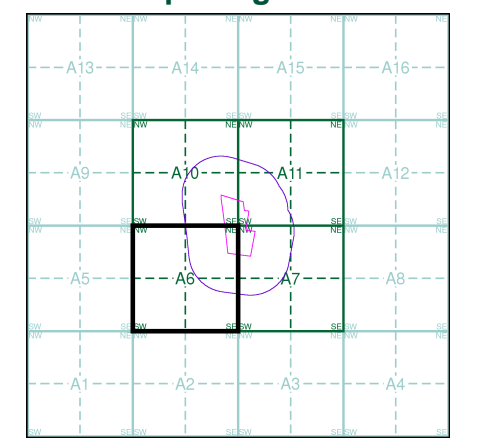
Large-Scale National Grid Data
Published 1993
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

VZ3566SW	Z3566SE	ENZ3666SW
1993	1993	1993
1:1,250	1:1,250	1:1,250
VZ3565NW	Z3565NE	ENZ3665NW
1993	1993	1993
1:1,250	1:1,250	1:1,250
VZ3565SW	Z3565SE	
1993	1993	
1:1,250	1:1,250	

Historical Map - Segment A6



Order Details

Order Number:	35564740_1_1
Customer Ref:	1004469
National Grid Reference:	435990, 566110
Slice:	A
Site Area (Ha):	5.6
Search Buffer (m):	250

Site Details
 Residential Development, Trinity South, SOUTH SHIELDS,
 Tyne and Wear



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 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk

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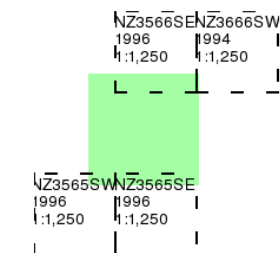
Large-Scale National Grid Data

Published 1994 - 1996

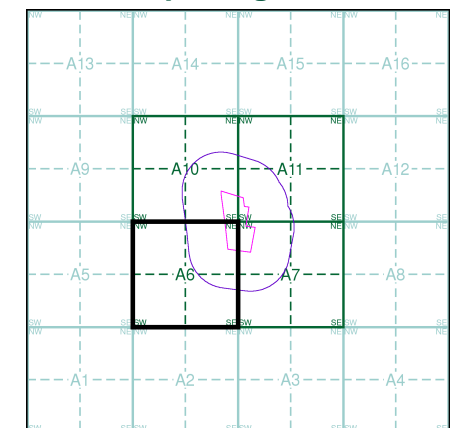
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A6

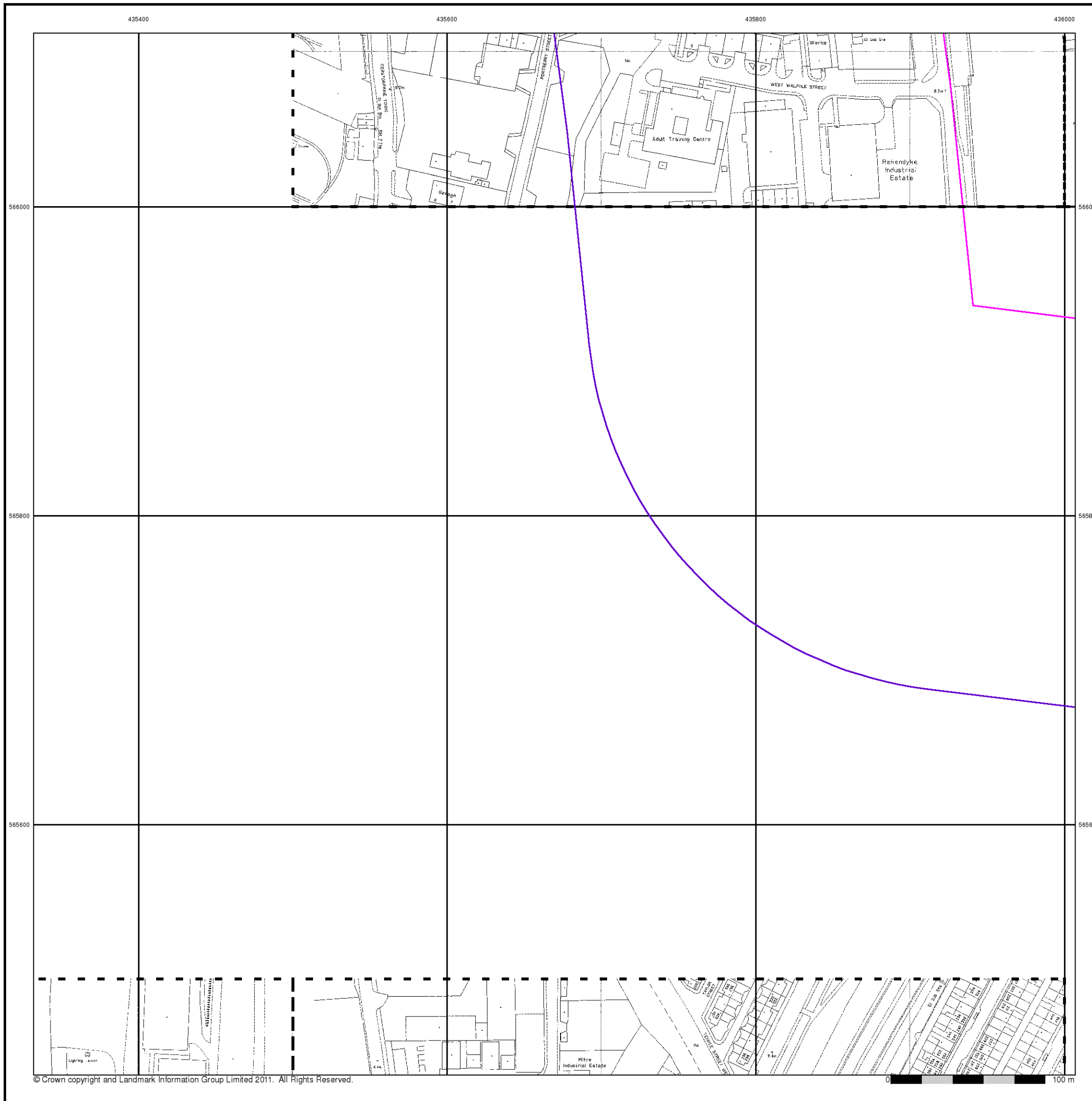


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



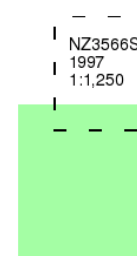
Large-Scale National Grid Data

Published 1997

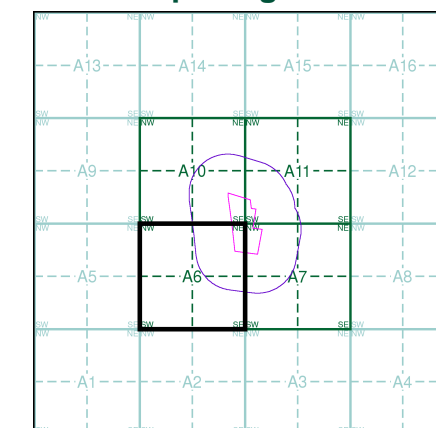
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A6

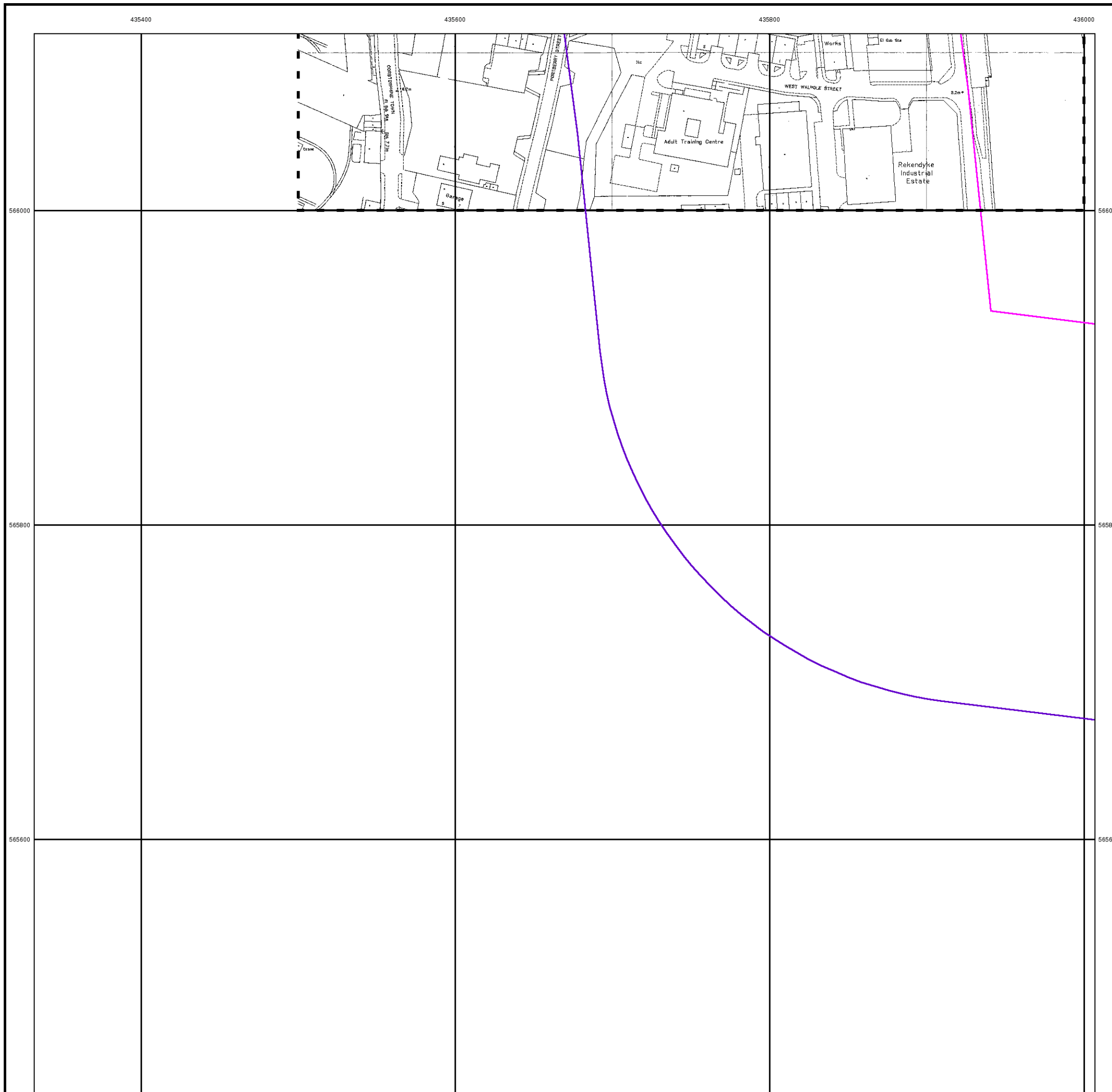


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Historical Mapping Legends

Ordnance Survey County Series and Ordnance Survey Plan 1:2,500

Quarry **Gravel Pit** **Sand Pit**
Clay Pit **Shingle** **Refuse Heap**
Sloping Masonry **Flat Rock**
Marsh **Reeds** **Osiers**
Rough Pasture **Furze** **Wood**
Mixed Wood **Brushwood** **Orchard**
Fir **Ford** **Stepping Stones**
Ferry **Waterfall** **Lock**
Trig. Station **Altitude at Trig. Station**
B.M. 325.9 **Bench Mark** **Surface Level**
Arrow denotes flow of water **Antiquities (site of)**
Cutting **Embankment**
Railway crossing Road **Level Crossing** **Road crossing Railway**
Railway crossing River or Canal **Road over single stream** **Road over River or Canal**
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
County Borough Boundary (England)
County Burgh Boundary (Scotland)
Co. Boro. Bdy.
Co. Burgh Bdy.
BP BS Boundary Post or Stone **P.C.B** Police Call Box
B.R. Bridle Road **P** Pump
E.P Electricity Pylon **S.P** Signal Post
F.B. Foot Bridge **Sl** Sluice
F.P. Foot Path **Sp.** Spring
G.P Guide Post or Board **T.C.B** Telephone Call Box
M.S Mile Stone **Tr.** Trough
M.P M.R Mooring Post or Ring **W** Well

Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250

Inactive Quarry, Chalk Pit or Clay Pit **Active Quarry, Chalk Pit or Clay Pit**
Rock **Boulders**
Cliff **Slopes** **Top**
Roofed Building **Glazed Roof Building**
Sloping Masonry **Archway**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Bench Mark** **Antiquity (site of)**
Cave Entrance **Triangulation Station** **Electricity Pylon**
Electricity Transmission Line
County Boundary (Geographical)
County & Civil Parish Boundary
Civil Parish Boundary
Admin. County or County Bor. Boundary
London Borough Boundary
Symbol marking point where boundary mereing changes
BH Beer House **P** Pillar, Pole or Post
BP, BS Boundary Post or Stone **PO** Post Office
Cn, C Capstan, Crane **PC** Public Convenience
Chy Chimney **PH** Public House
D Fn Drinking Fountain **Pp** Pump
EI P Electricity Pillar or Post **SB, S Br** Signal Box or Bridge
FAP Fire Alarm Pillar **SP, SL** Signal Post or Light
FB Foot Bridge **Spr** Spring
GP Guide Post **Tk** Tank or Track
H Hydrant or Hydraulic **TCB** Telephone Call Box
LC Level Crossing **TCP** Telephone Call Post
MH Manhole **Tr** Trough
MP Mile Post or Mooring Post **Wr Pt, Wr T** Water Point, Water Tap
MS Mile Stone **W** Well
NTL Normal Tidal Limit **Wd Pp** Wind Pump

Large-Scale National Grid Data 1:2,500 and 1:1,250

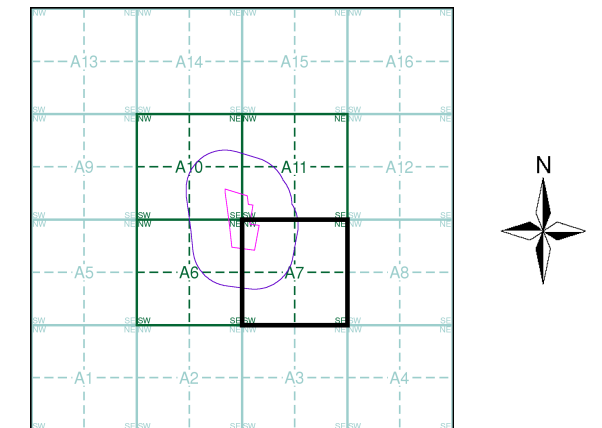
Cliff **Slopes** **Top**
Rock **Rock (scattered)**
Boulders **Boulders (scattered)**
Positioned Boulder **Scree**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Triangulation Station** **Antiquity (site of)**
Electricity Transmission Line **Electricity Pylon**
B.M. 231.60m Bench Mark **Buildings with Building Seed**
Roofed Building **Glazed Roof Building**
Civil parish/community boundary
District boundary
County boundary
Boundary post/stone
Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)
Bks Barracks **P** Pillar, Pole or Post
Bty Battery **PO** Post Office
Cemy Cemetery **PC** Public Convenience
Chy Chimney **Pp** Pump
Cis Cistern **Ppg Sta** Pumping Station
Dismtd Rly Dismantled Railway **PW** Place of Worship
EI Gen Sta Electricity Generating Station **Sewage Ppg Sta** Sewage Pumping Station
EI P Electricity Pole, Pillar **SB, S Br** Signal Box or Bridge
EI Sub Sta Electricity Sub Station **SP, SL** Signal Post or Light
FB Filter Bed **Spr** Spring
Fn / D Fn Fountain / Drinking Ftn. **Tk** Tank or Track
Gas Gov Gas Valve Compound **Tr** Trough
GVC Gas Governor **Wd Pp** Wind Pump
GP Guide Post **Wr Pt, Wr T** Water Point, Water Tap
MH Manhole **Wks** Works (building or area)
MP, MS Mile Post or Mile Stone **W** Well



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Durham	1:2,500	1858 - 1874	2
Northumberland	1:2,500	1861	3
Durham	1:2,500	1897	4
Durham	1:2,500	1915 - 1916	5
Durham	1:2,500	1942	6
Ordnance Survey Plan	1:2,500	1956 - 1957	7
Ordnance Survey Plan	1:1,250	1956	8
Ordnance Survey Plan	1:1,250	1961 - 1975	9
Additional SIMs	1:1,250	1961 - 1989	10
Ordnance Survey Plan	1:1,250	1968 - 1987	11
Ordnance Survey Plan	1:2,500	1970	12
Supply of Unpublished Survey Information	1:1,250	1973 - 1975	13
Ordnance Survey Plan	1:1,250	1975	14
Additional SIMs	1:1,250	1981 - 1991	15
Additional SIMs	1:1,250	1988 - 1992	16
Additional SIMs	1:1,250	1992	17
Large-Scale National Grid Data	1:1,250	1993	18
Large-Scale National Grid Data	1:1,250	1994 - 1996	19

Historical Map - Segment A7



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



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Durham

Published 1858 - 1874

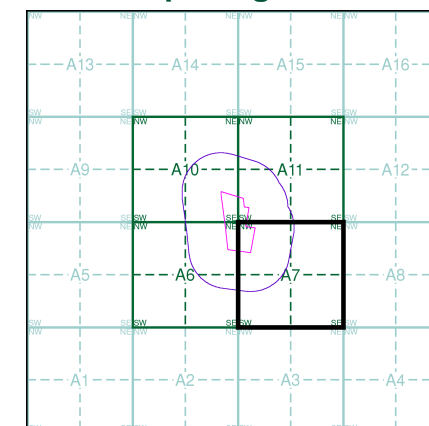
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

004_05 1858 1:2,500
004_09 1874 1:2,500

Historical Map - Segment A7

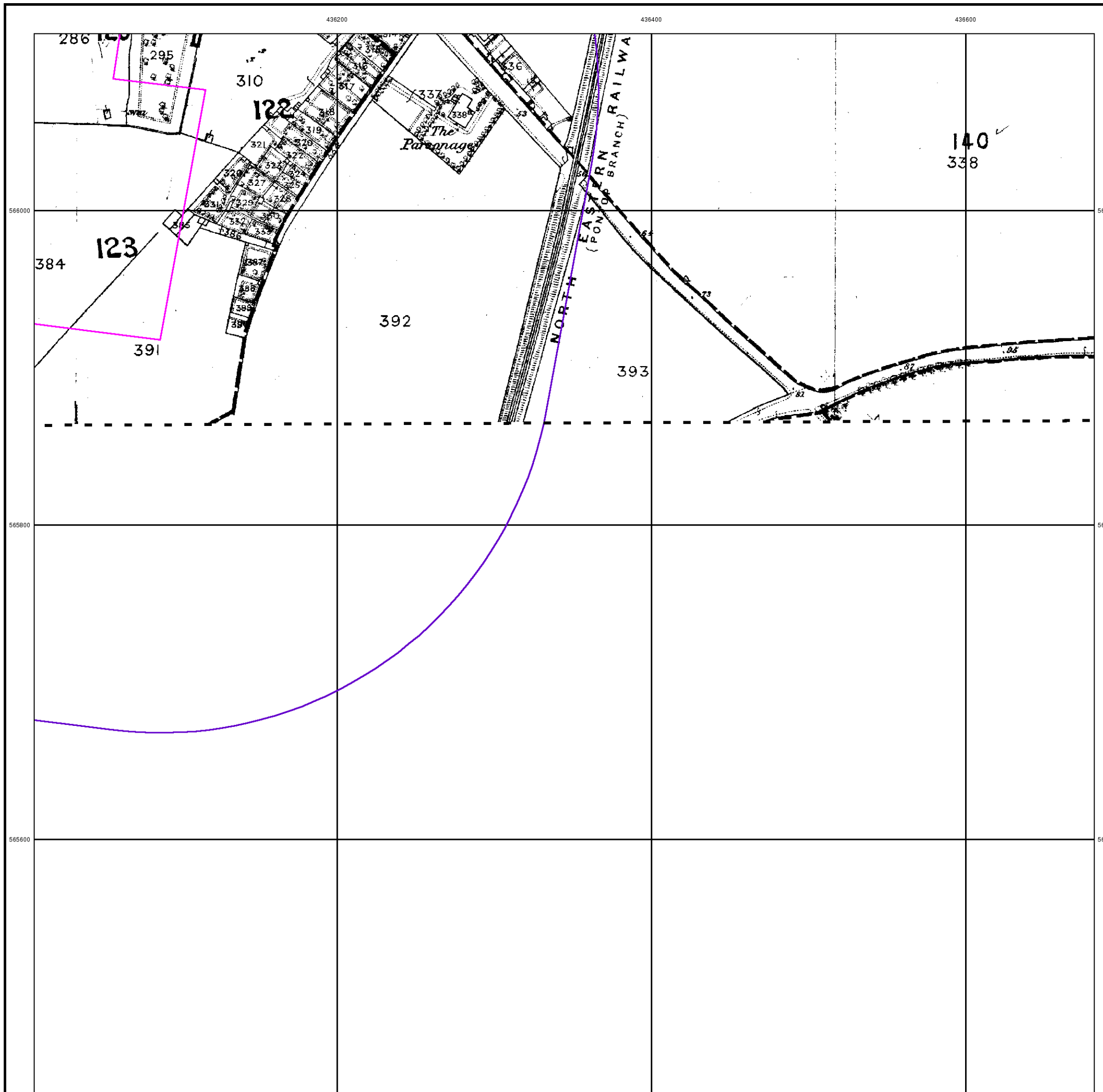


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



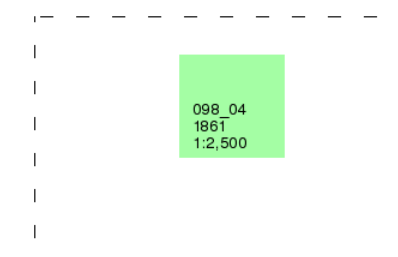
Northumberland

Published 1861

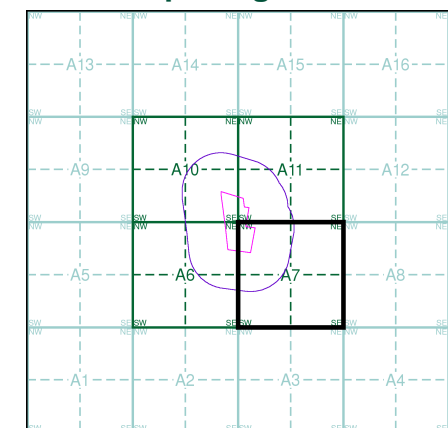
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A7

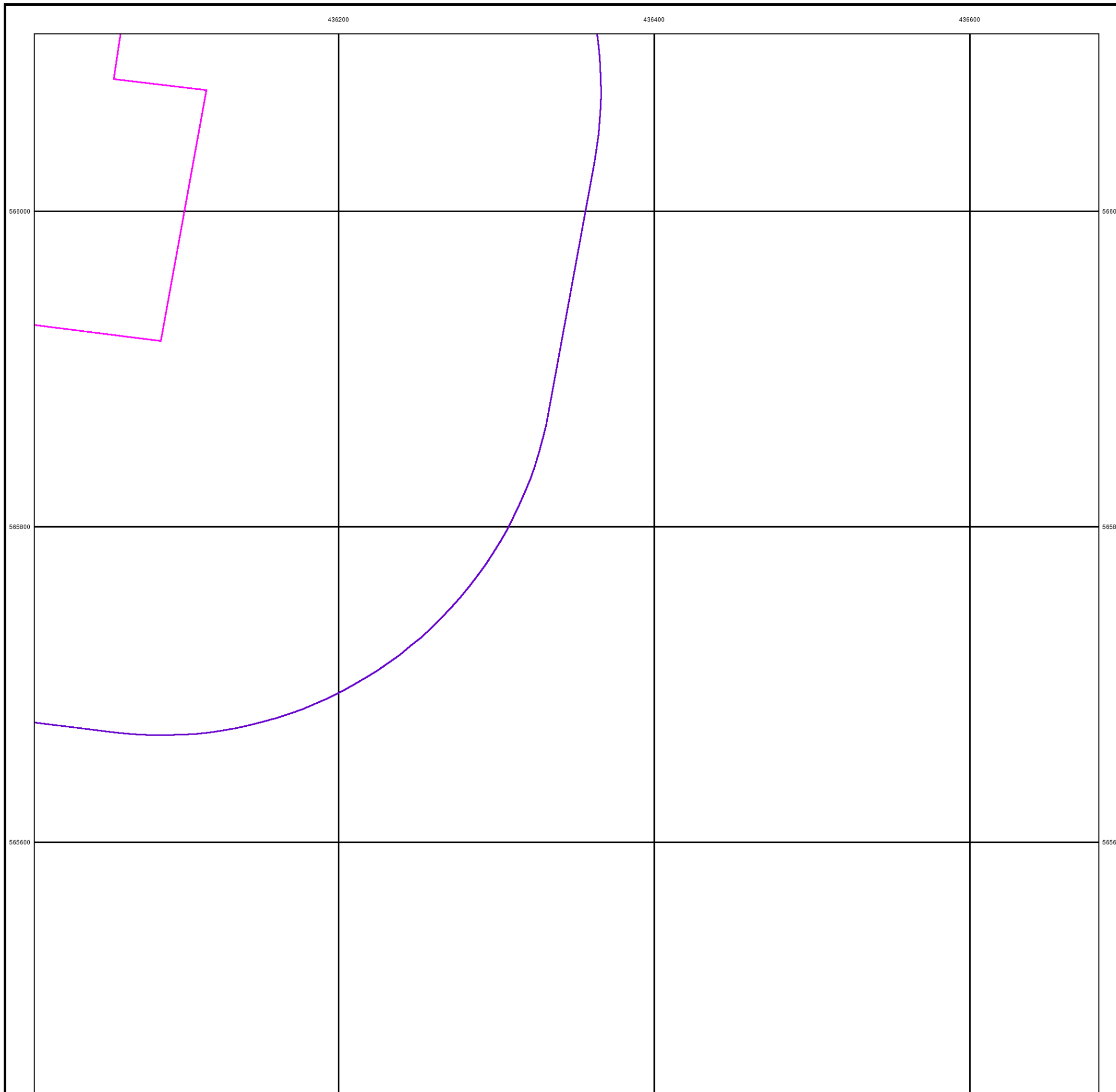


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS,
 Tyne and Wear



Durham

Published 1897

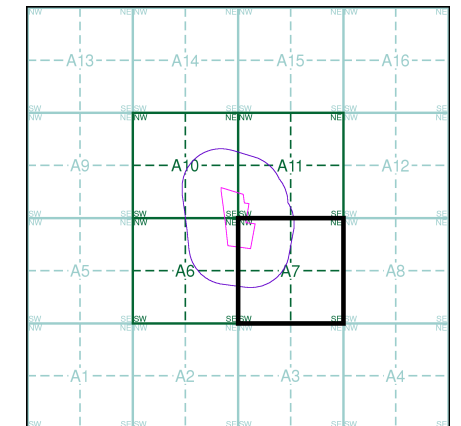
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

004_05	1897	1:2,500
004_09	1897	1:2,500

Historical Map - Segment A7

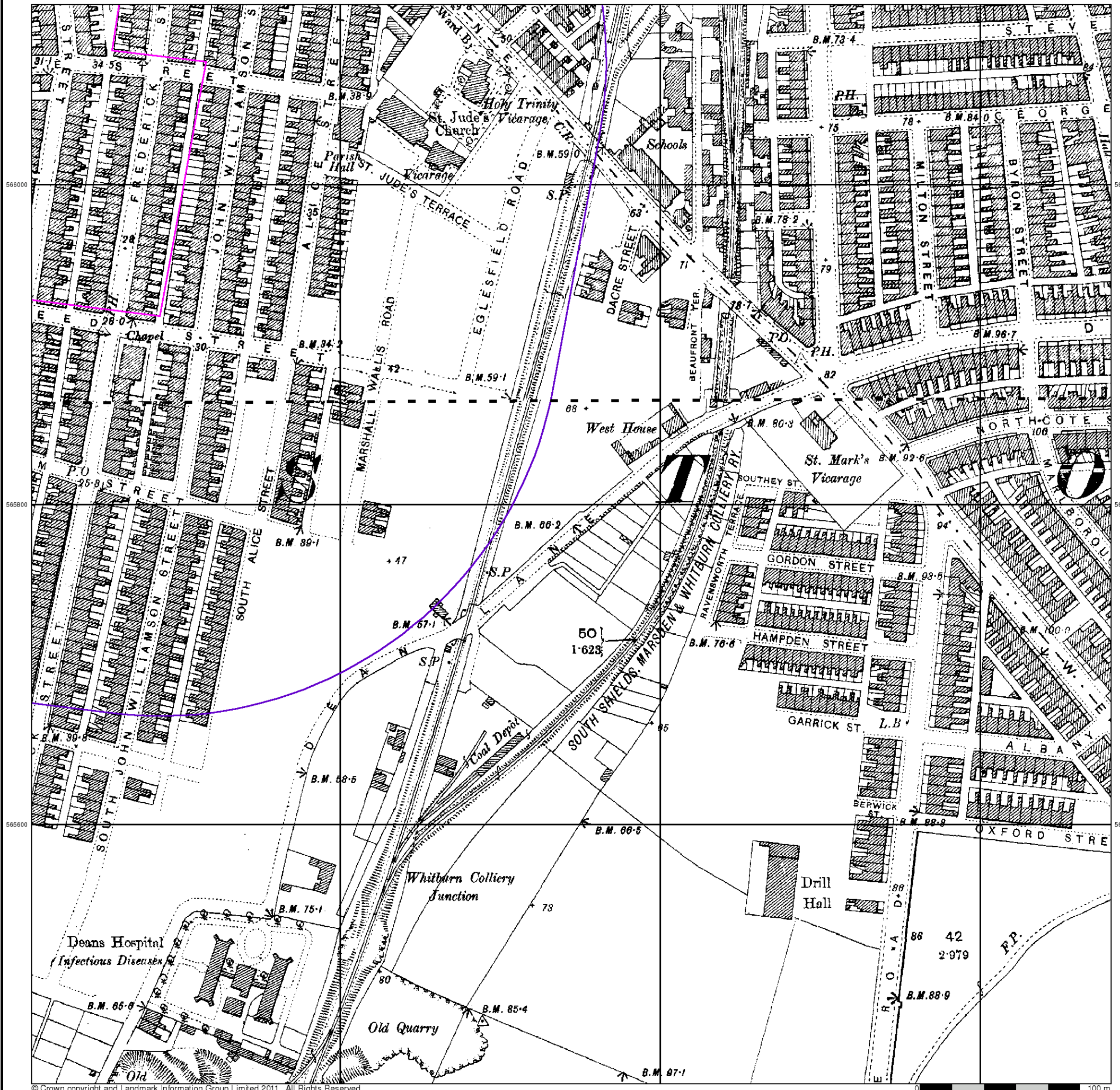


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



436200

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436600



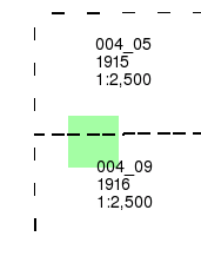
Durham

Published 1915 - 1916

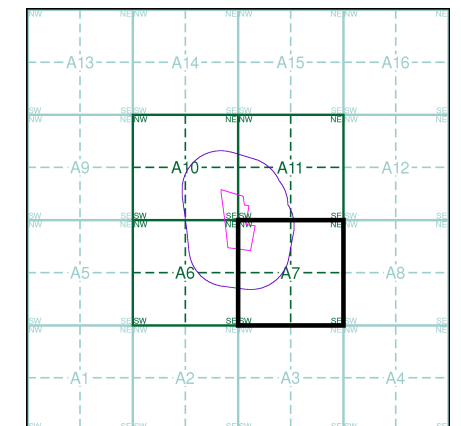
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A7



Order Details

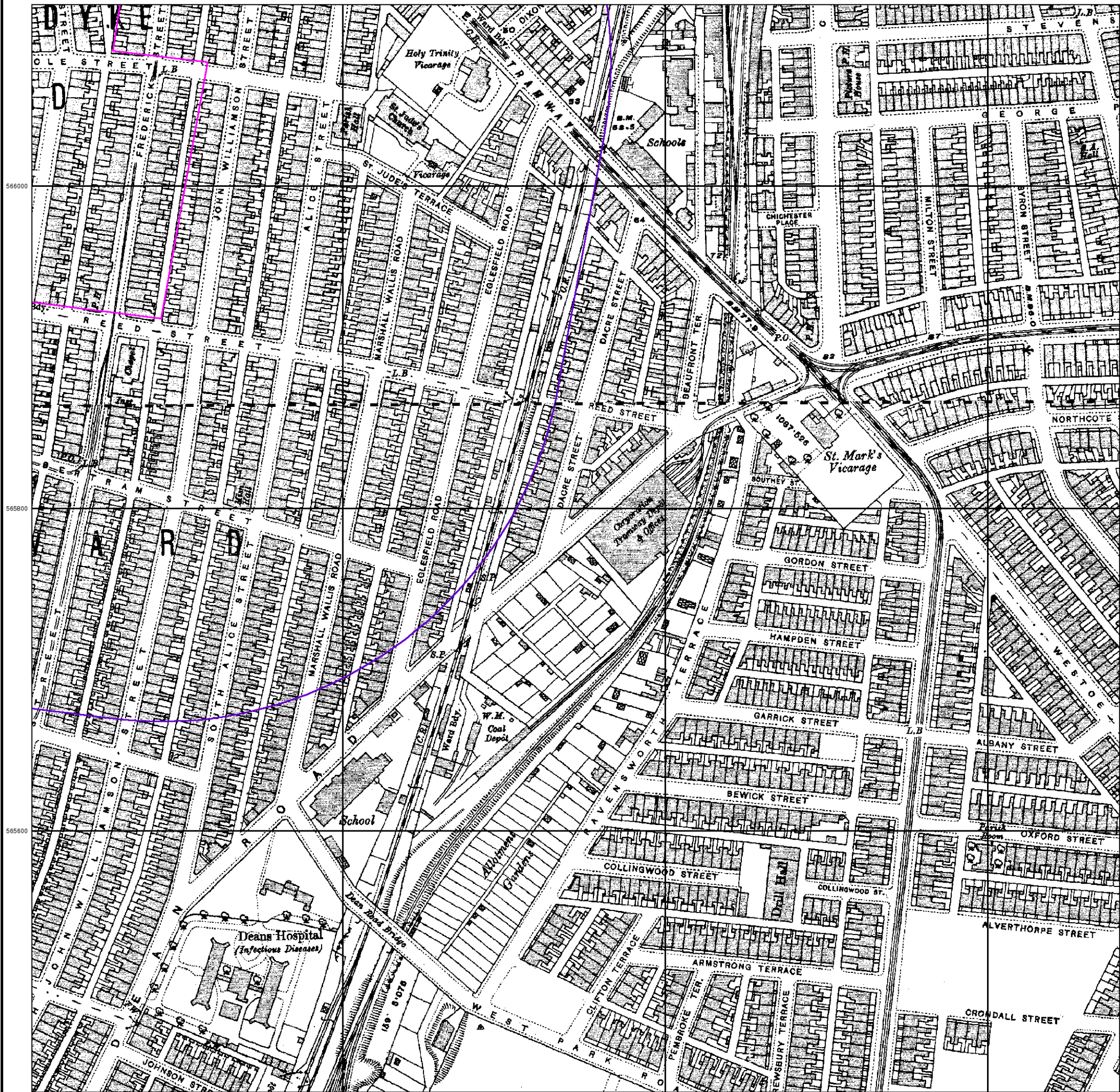
Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



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436200

436400

436600



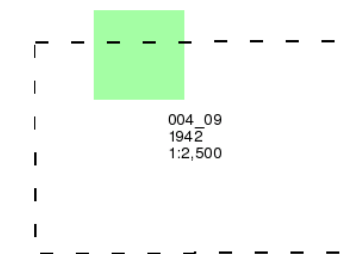
Durham

Published 1942

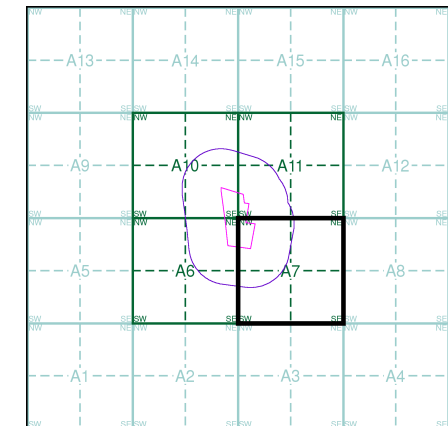
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A7



Order Details

Order Number:	35564740_1_1
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Slice:	A
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Ordnance Survey Plan

Published 1956 - 1957

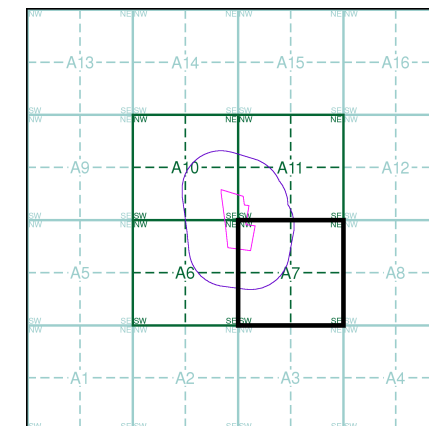
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NZ3666	1956	1:2,500
NZ3665	1957	1:2,500

Historical Map - Segment A7



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear





Ordnance Survey Plan

Published 1956

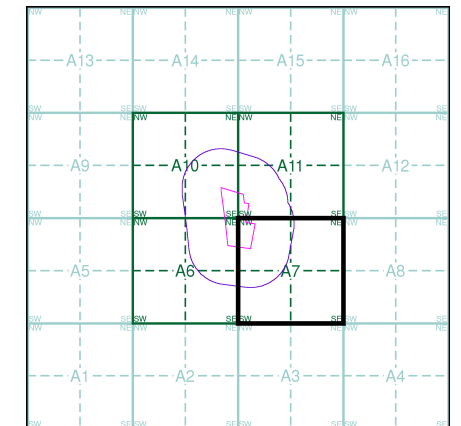
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

Z3666SW	Z3666SE
956	956
:1,250	:1,250
Z3665NW	Z3665NE
956	956
:1,250	:1,250
Z3665SW	Z3665SE
956	956
:1,250	:1,250

Historical Map - Segment A7



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



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436200

436400

436600



Ordnance Survey Plan

Published 1961 - 1975

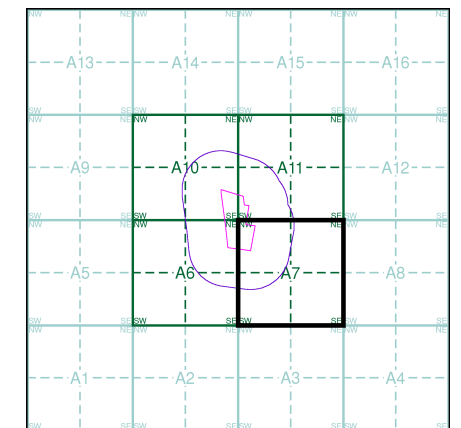
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

Z3666SWZ3666SE	963	975	1:1,250	1:1,250
Z3665NWZ3665NE	961	973	1:1,250	1:1,250
Z3665SWZ3665SE	968	966	1:1,250	1:1,250

Historical Map - Segment A7



Order Details

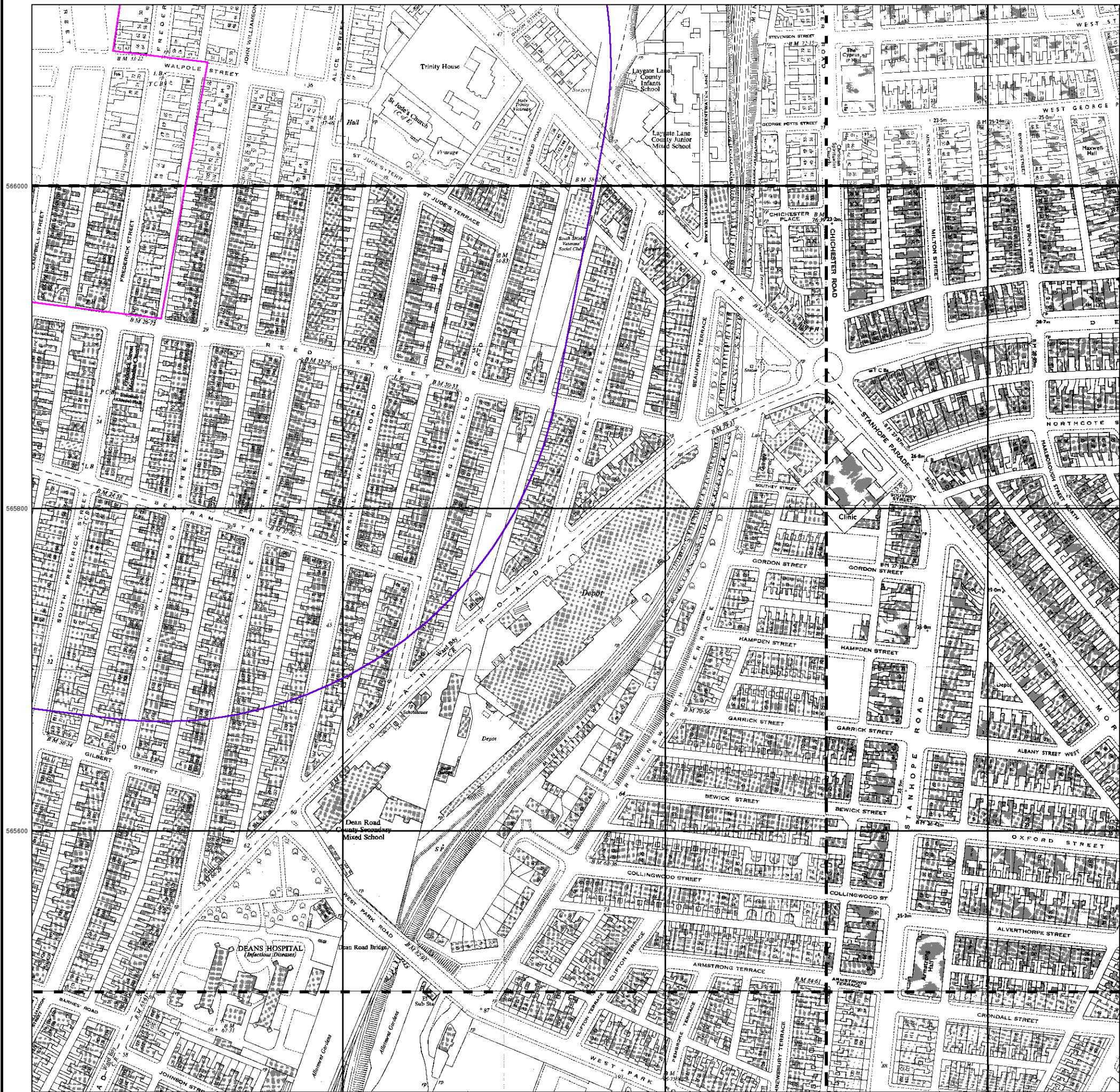
Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



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Additional SIMs

Published 1961 - 1989

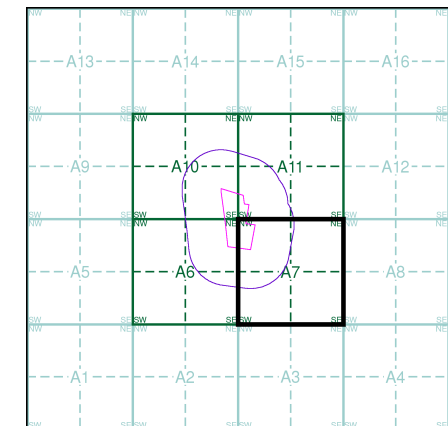
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

QZ3666SWZ3666SE	1986	1980
	1:1,250	1:1,250
QZ3665NWZ3665NE	1961	1982
	1:1,250	1:1,250
QZ3665SWZ3665SE	1985	1989
	1:1,250	1:1,250

Historical Map - Segment A7

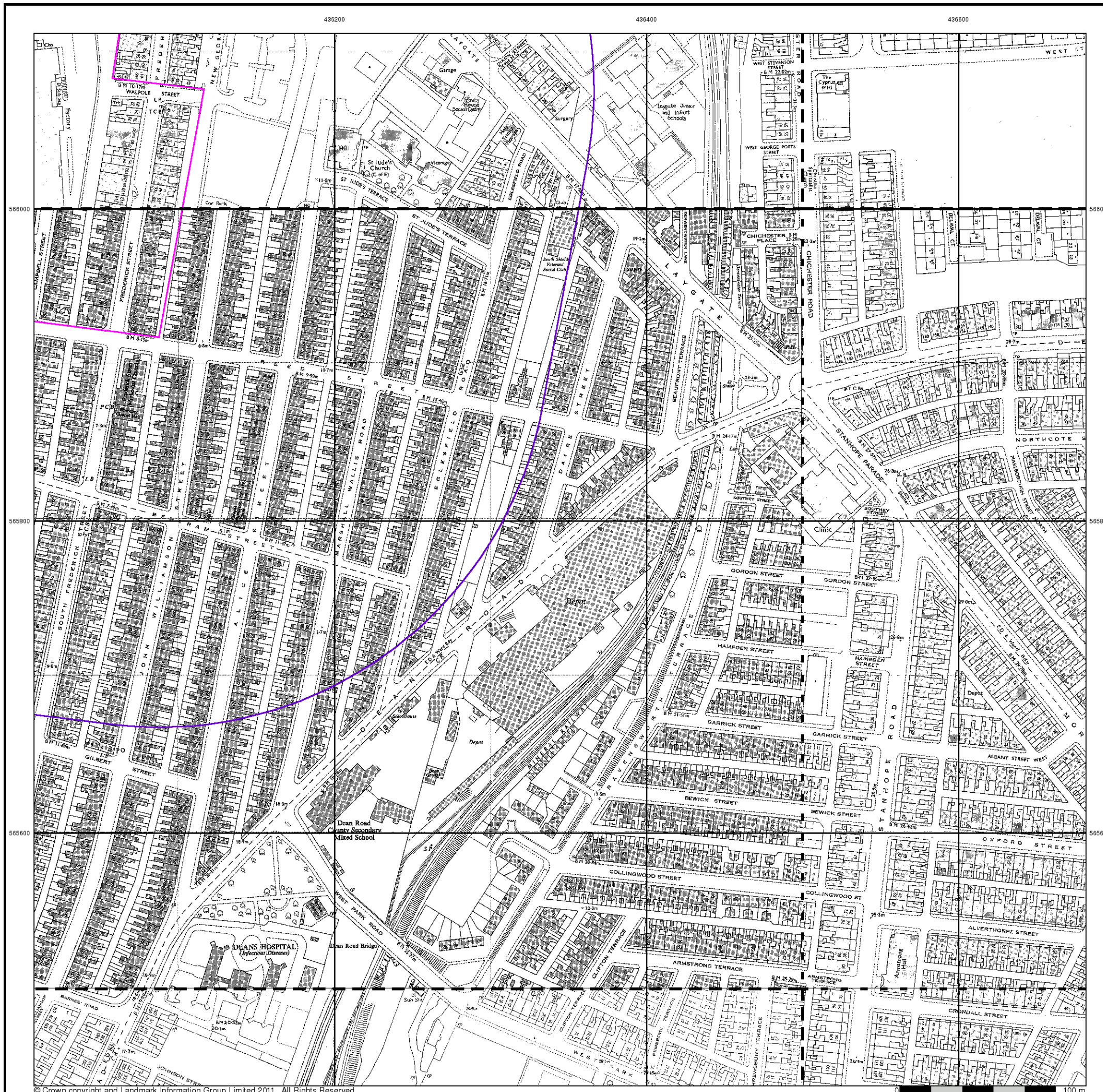


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Ordnance Survey Plan

Published 1968 - 1987

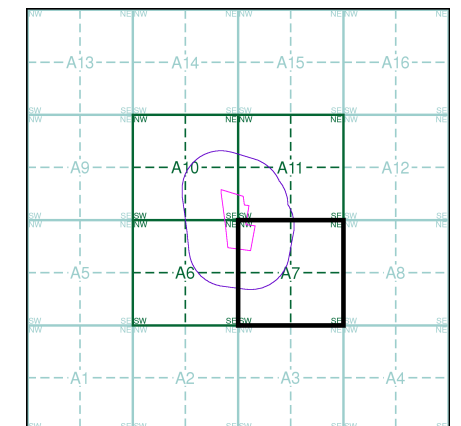
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NZ3666SW 1968 1:1,250	NZ3666SE 1983 1:1,250
NZ3665NW 1987 1:1,250	

Historical Map - Segment A7



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



436200

436400

436600



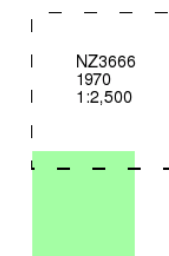
Ordnance Survey Plan

Published 1970

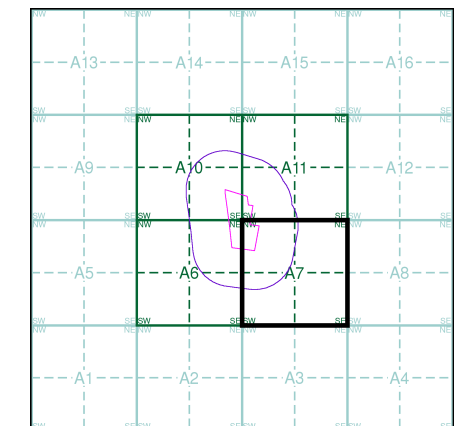
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A7



Order Details

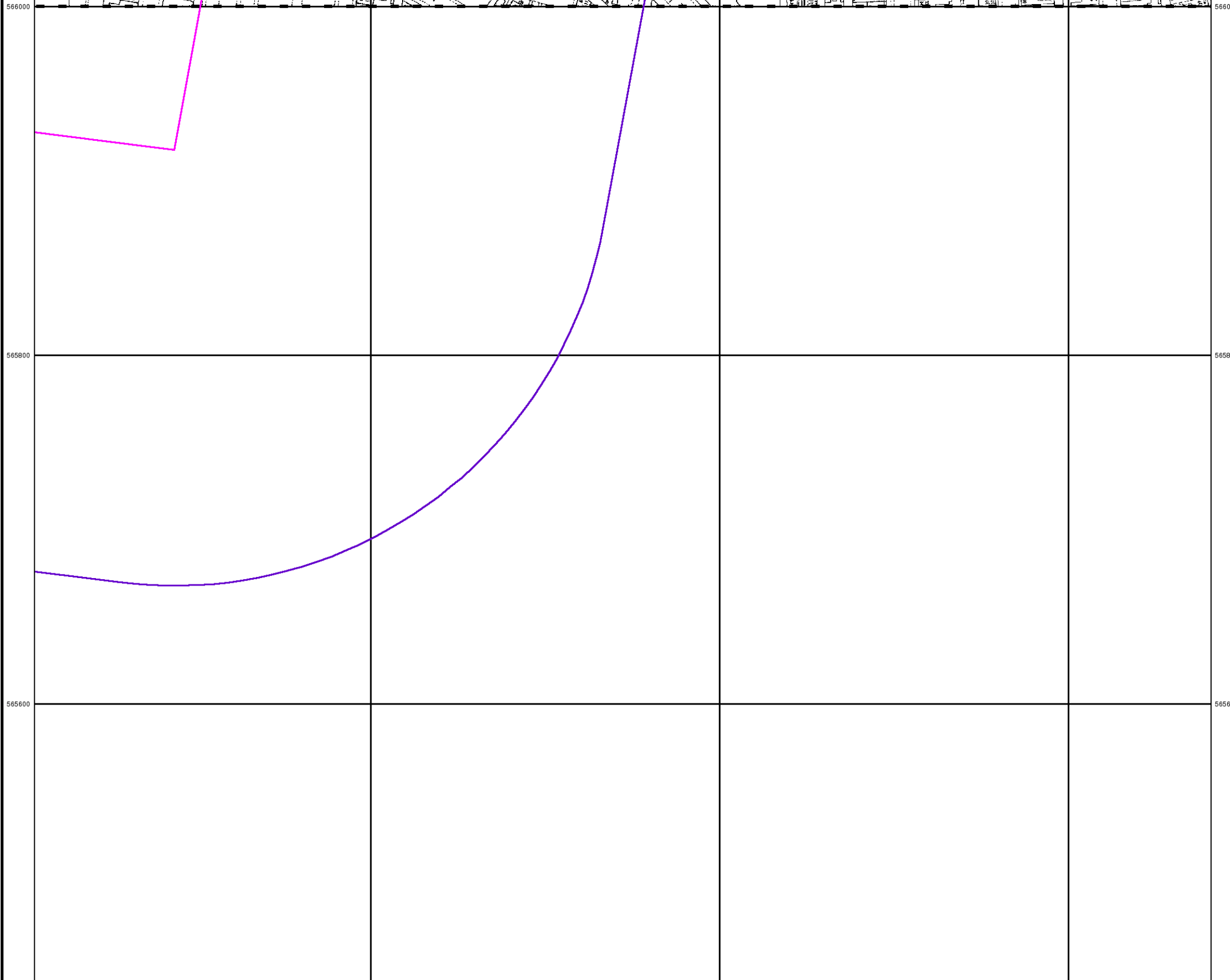
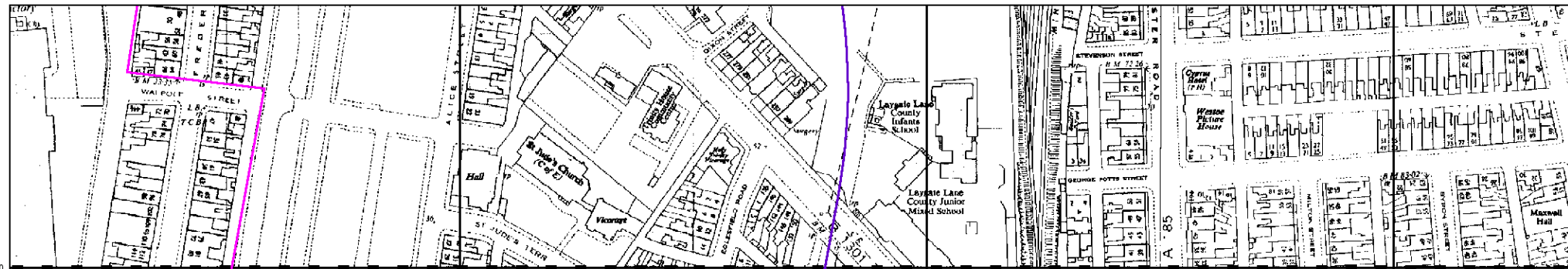
Order Number: 35564740_1_1
Customer Ref: 1004469
National Grid Reference: 435990, 566110
Slice: A
Site Area (Ha): 5.6
Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



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Supply of Unpublished Survey Information

Published 1973 - 1975

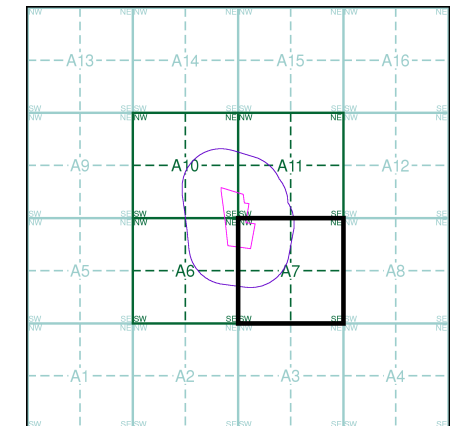
Source map scale - 1:1,250

SUSI maps (Supply of Unpublished Survey Information) were produced between 1972 and 1977, mainly for internal use at Ordnance Survey. These were more of a 'work-in-progress' plan as they showed updates of individual areas on a map. These maps were unpublished, and they do not represent a single moment in time. They were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

U3666SWZ3666SE	1974	1974
	1:1,250	1:1,250
U3665NWZ3665NE	1975	1973
	1:1,250	1:1,250
U3665SWZ3665SE	1974	1974
	1:1,250	1:1,250

Historical Map - Segment A7



Order Details

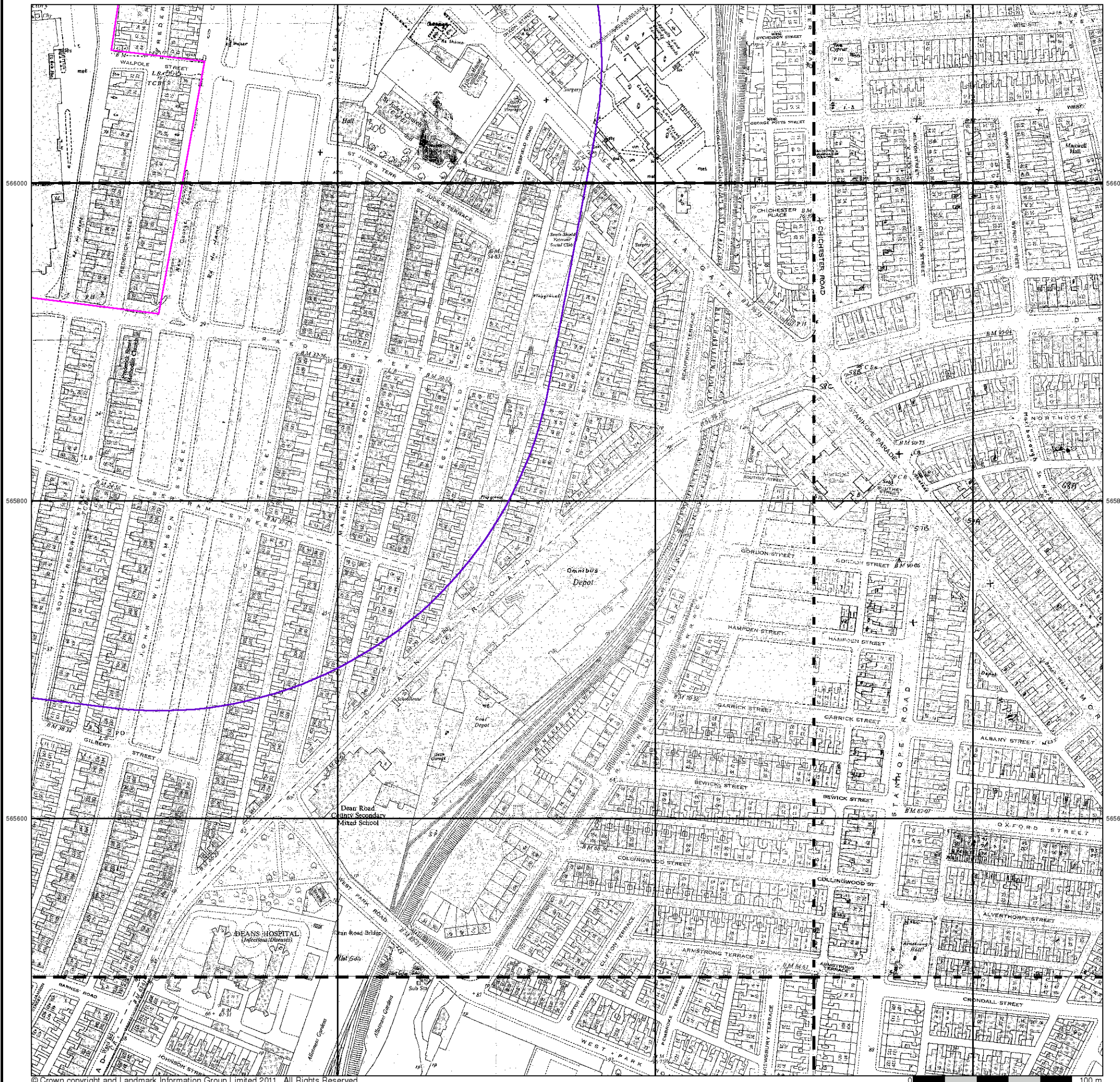
Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
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Site Details

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Ordnance Survey Plan

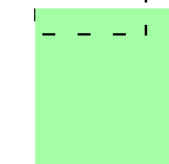
Published 1975

Source map scale - 1:1,250

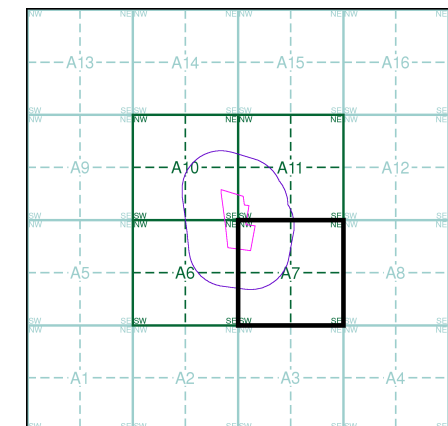
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NZ3666SW
1975
1:1,250



Historical Map - Segment A7



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Additional SIMs

Published 1981 - 1991

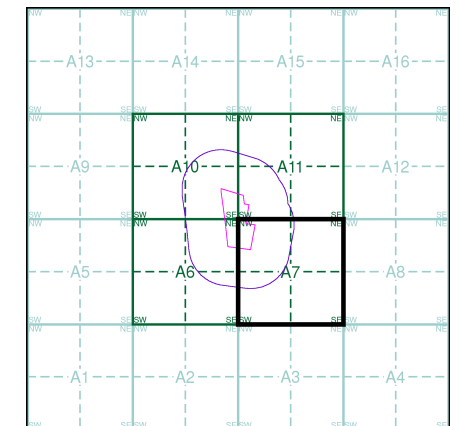
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

NZ3666SW 1989 1:1,250	NZ3666SE 1991 1:1,250
NZ3665NW 1981 1:1,250	

Historical Map - Segment A7

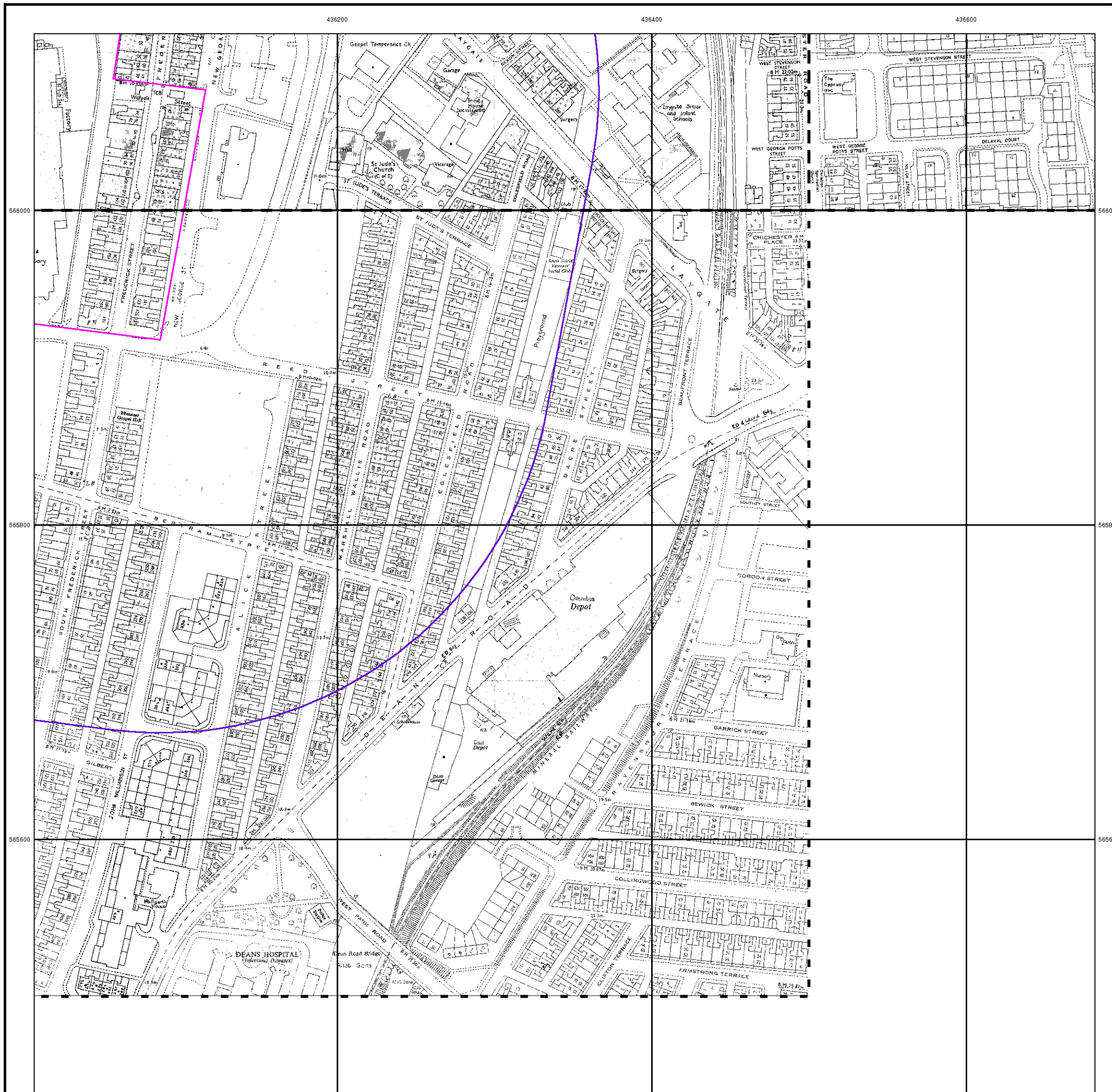


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



436200

436400

436600



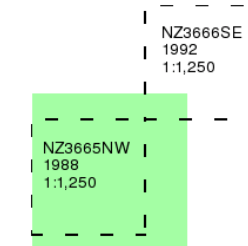
Additional SIMs

Published 1988 - 1992

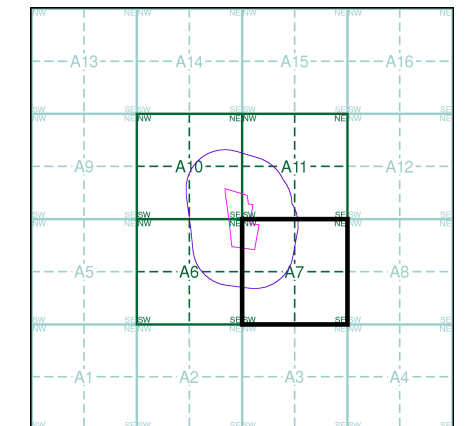
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A7



Order Details

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436200

436400

436600



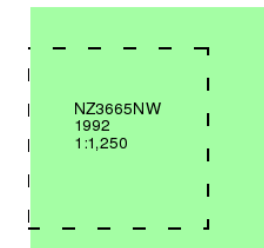
Additional SIMs

Published 1992

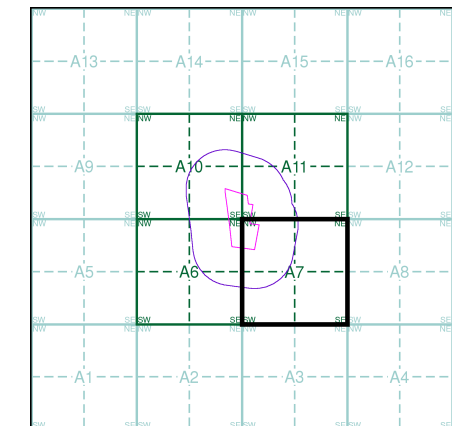
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A7



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

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436200

436400

436600



Large-Scale National Grid Data

Published 1993

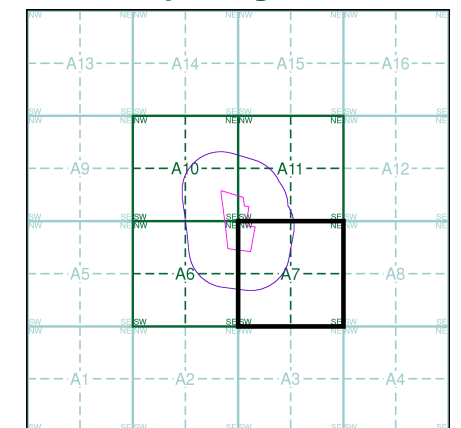
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

NZ3666SWNZ3666SE	1993	1993
1:1,250	1:1,250	1:1,250
NZ3665NWZ3665NE	1993	1993
1:1,250	1:1,250	1:1,250
NZ3665SE	1993	1993
1:1,250	1:1,250	1:1,250

Historical Map - Segment A7



Order Details

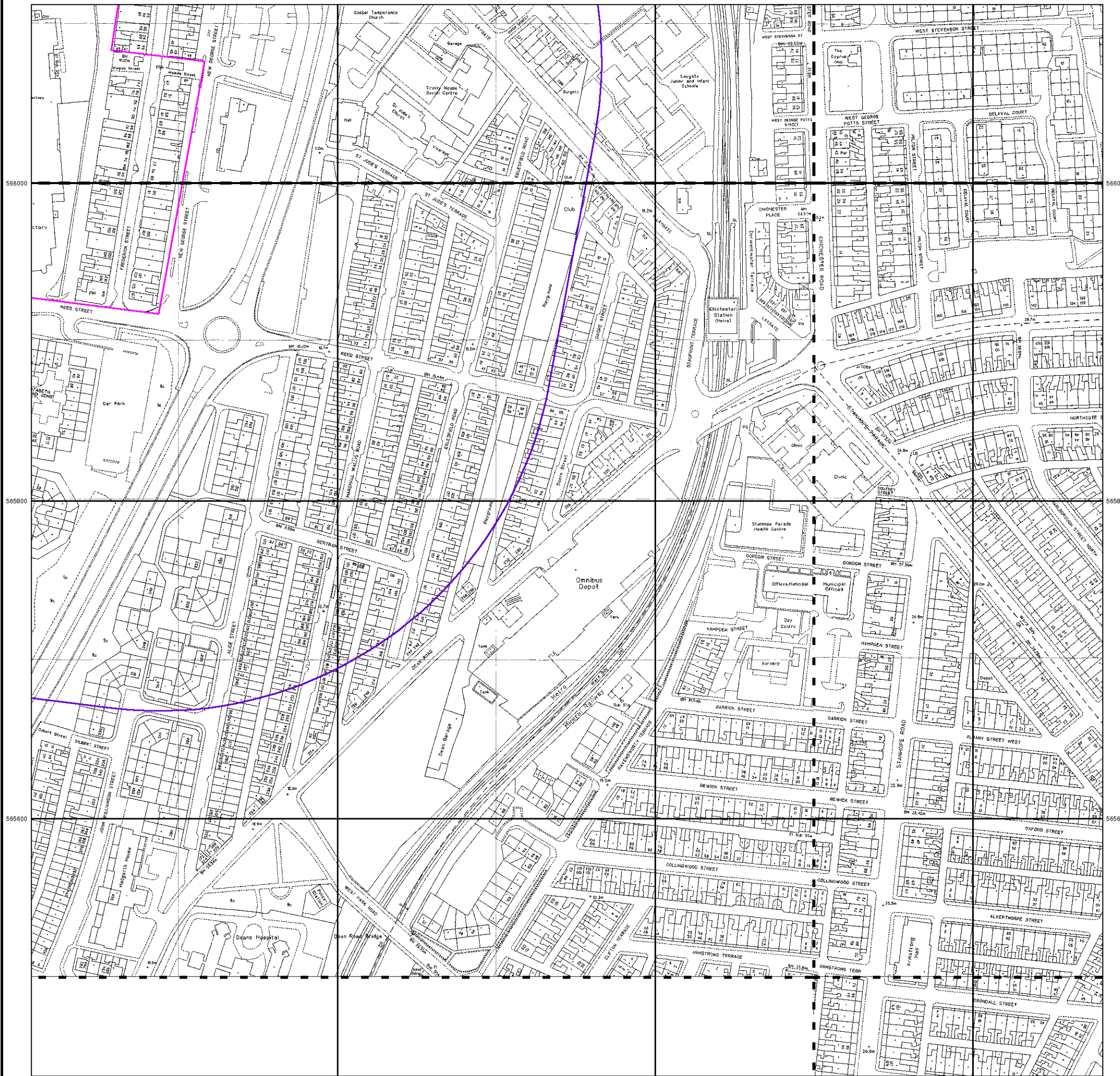
Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

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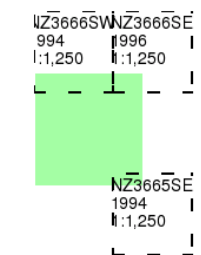
Large-Scale National Grid Data

Published 1994 - 1996

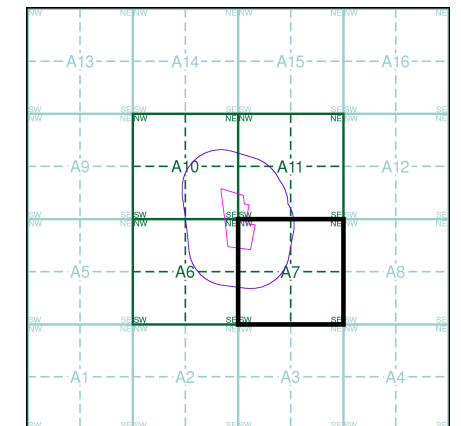
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A7



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Historical Mapping Legends

Ordnance Survey County Series and Ordnance Survey Plan 1:2,500

Quarry **Gravel Pit** **Sand Pit**
Clay Pit **Shingle** **Refuse Heap**
Sloping Masonry **Flat Rock**
Marsh **Reeds** **Osiers**
Rough Pasture **Furze** **Wood**
Mixed Wood **Brushwood** **Orchard**
Fir **Ford** **Stepping Stones**
Ferry **Waterfall** **Lock**
Trig. Station **Altitude at Trig. Station**
B.M. 325.9 **Bench Mark** **Surface Level**
Arrow denotes flow of water **Antiquities (site of)**
Cutting **Embankment**
Railway crossing Road **Level Crossing** **Road crossing Railway**
Railway crossing River or Canal **Road over single stream** **Road over River or Canal**
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
County Borough Boundary (England)
County Burgh Boundary (Scotland)
Co. Boro. Bdy.
Co. Burgh Bdy.
BP BS Boundary Post or Stone **P.C.B** Police Call Box
B.R. Bridle Road **P** Pump
E.P Electricity Pylon **S.P** Signal Post
F.B. Foot Bridge **Sl** Sluice
F.P. Foot Path **Sp.** Spring
G.P Guide Post or Board **T.C.B** Telephone Call Box
M.S Mile Stone **Tr.** Trough
M.P M.R Mooring Post or Ring **W** Well

Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250

Inactive Quarry, Chalk Pit or Clay Pit **Active Quarry, Chalk Pit or Clay Pit**
Rock **Boulders**
Cliff **Slopes** **Top**
Roofed Building **Glazed Roof Building**
Sloping Masonry **Archway**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Bench Mark** **Antiquity (site of)**
Cave Entrance **Triangulation Station** **Electricity Pylon**
Electricity Transmission Line
County Boundary (Geographical)
County & Civil Parish Boundary
Civil Parish Boundary
Admin. County or County Bor. Boundary
London Borough Boundary
Symbol marking point where boundary mereing changes
BH Beer House **P** Pillar, Pole or Post
BP, BS Boundary Post or Stone **PO** Post Office
Cn, C Capstan, Crane **PC** Public Convenience
Chy Chimney **PH** Public House
D Fn Drinking Fountain **Pp** Pump
EI P Electricity Pillar or Post **SB, S Br** Signal Box or Bridge
FAP Fire Alarm Pillar **SP, SL** Signal Post or Light
FB Foot Bridge **Spr** Spring
GP Guide Post **Tk** Tank or Track
H Hydrant or Hydraulic **TCB** Telephone Call Box
LC Level Crossing **TCP** Telephone Call Post
MH Manhole **Tr** Trough
MP Mile Post or Mooring Post **Wr Pt, Wr T** Water Point, Water Tap
MS Mile Stone **W** Well
NTL Normal Tidal Limit **Wd Pp** Wind Pump

Large-Scale National Grid Data 1:2,500 and 1:1,250

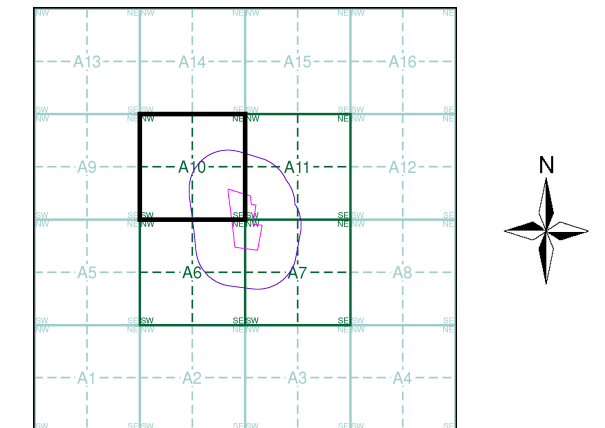
Cliff **Slopes** **Top**
Rock **Rock (scattered)**
Boulders **Boulders (scattered)**
Positioned Boulder **Scree**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Triangulation Station** **Antiquity (site of)**
Electricity Transmission Line **Electricity Pylon**
B.M. 231.60m Bench Mark **Buildings with Building Seed**
Roofed Building **Glazed Roof Building**
Civil parish/community boundary
District boundary
County boundary
Boundary post/stone
Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)
Bks Barracks **P** Pillar, Pole or Post
Bty Battery **PO** Post Office
Cemy Cemetery **PC** Public Convenience
Chy Chimney **Pp** Pump
Cis Cistern **Ppg Sta** Pumping Station
Dismtd Rly Dismantled Railway **PW** Place of Worship
EI Gen Sta Electricity Generating Station **Sewage Ppg Sta** Sewage Pumping Station
EI P Electricity Pole, Pillar **SB, S Br** Signal Box or Bridge
EI Sub Sta Electricity Sub Station **SP, SL** Signal Post or Light
FB Filter Bed **Spr** Spring
Fn / D Fn Fountain / Drinking Ftn. **Tk** Tank or Track
Gas Gov Gas Valve Compound **Tr** Trough
GVC Gas Governor **Wd Pp** Wind Pump
GP Guide Post **Wr Pt, Wr T** Water Point, Water Tap
MH Manhole **Wks** Works (building or area)
MP, MS Mile Post or Mile Stone **W** Well



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Durham	1:2,500	1858	2
Northumberland	1:2,500	1861	3
Durham	1:2,500	1897	4
Durham	1:2,500	1915 - 1916	5
Durham	1:2,500	1938	6
Ordnance Survey Plan	1:2,500	1956	7
Ordnance Survey Plan	1:1,250	1956	8
Ordnance Survey Plan	1:1,250	1963 - 1968	9
Ordnance Survey Plan	1:1,250	1968 - 1989	10
Ordnance Survey Plan	1:2,500	1970	11
Supply of Unpublished Survey Information	1:1,250	1974 - 1975	12
Ordnance Survey Plan	1:1,250	1975 - 1989	13
Additional SIMs	1:1,250	1981 - 1989	14
Additional SIMs	1:1,250	1989 - 1990	15
Large-Scale National Grid Data	1:1,250	1993	16
Large-Scale National Grid Data	1:1,250	1994 - 1997	17
Large-Scale National Grid Data	1:1,250	1994 - 1997	18

Historical Map - Segment A10



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



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435400

435600

435800

436000



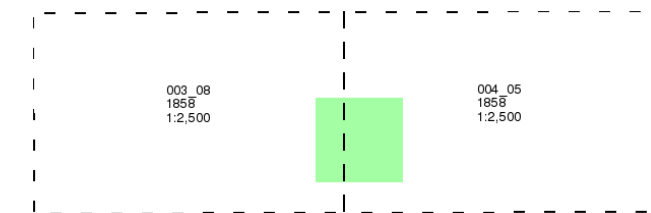
Durham

Published 1858

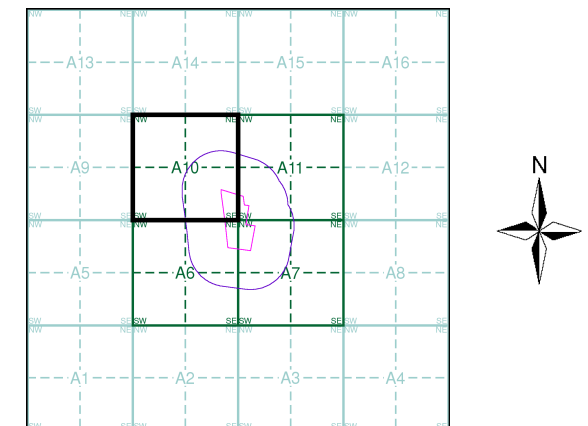
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A10



Order Details

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National Grid Reference:	435990, 566110
Slice:	A
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Site Details

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Northumberland

Published 1861

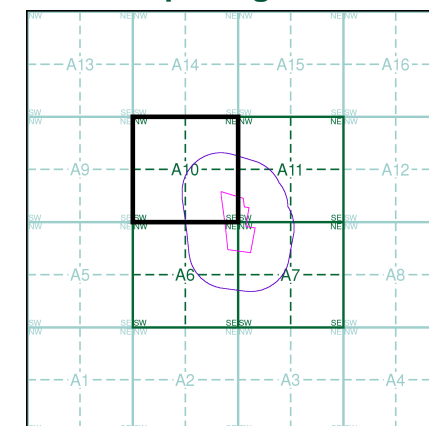
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

089_16
1861
1:2,500
098_04
1861
1:2,500

Historical Map - Segment A10

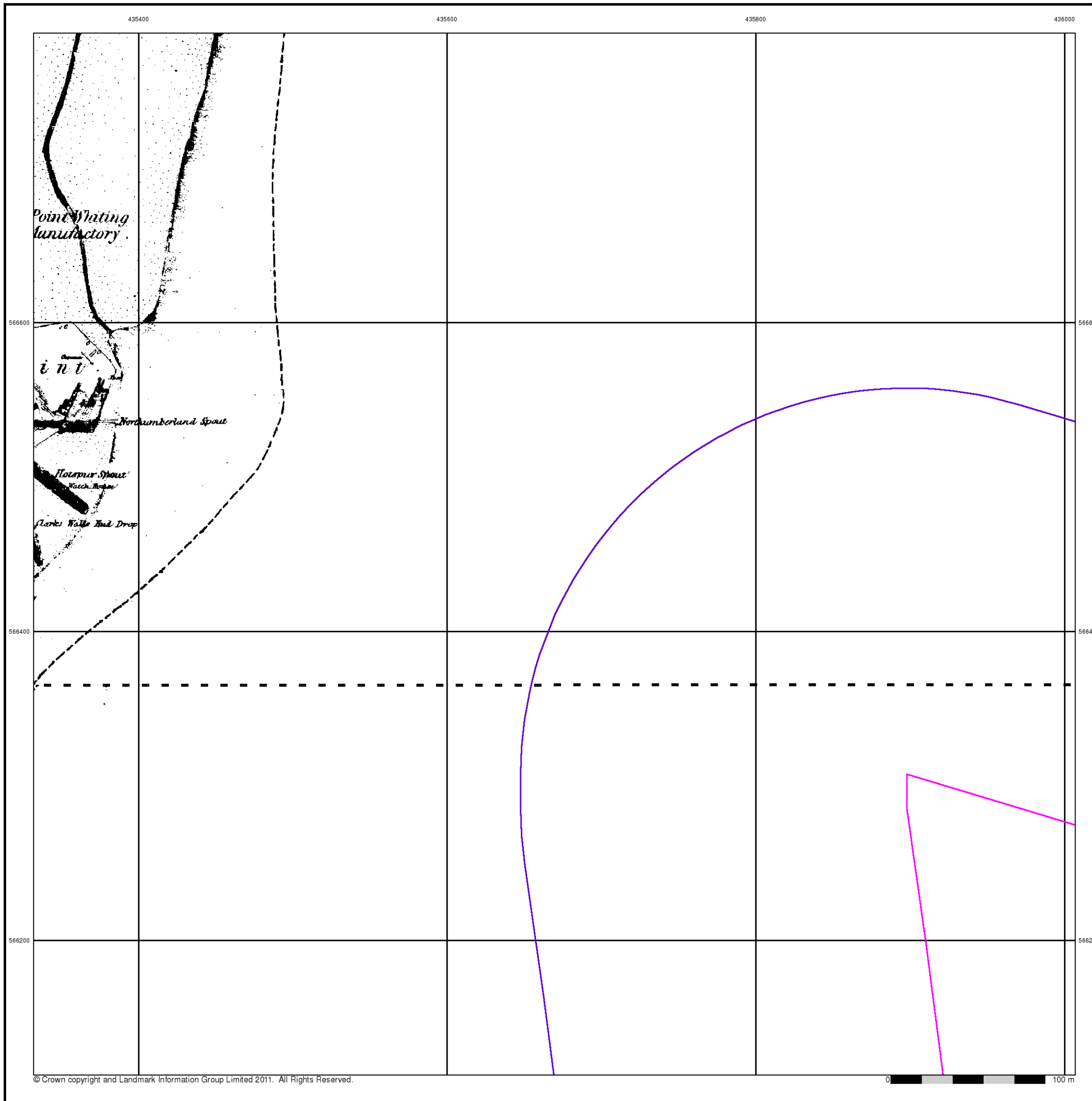


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
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 Site Area (Ha): 5.6
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Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



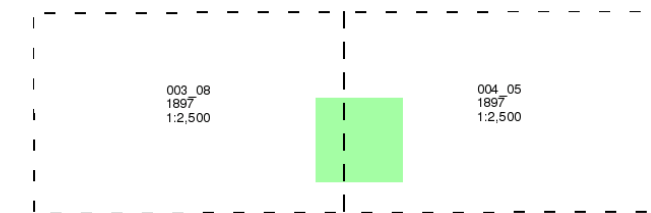
Durham

Published 1897

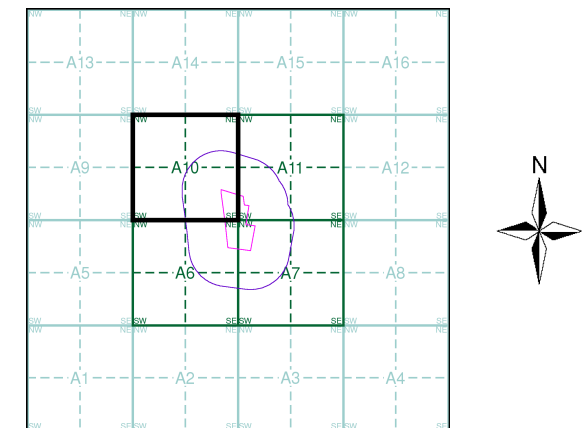
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

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Historical Map - Segment A10



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 Slice: A
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Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



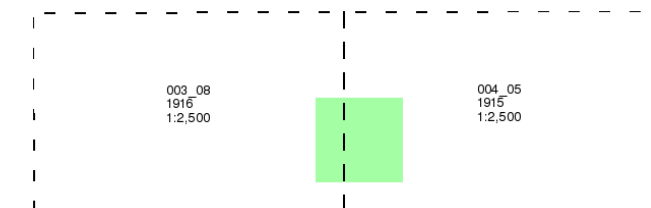
Durham

Published 1915 - 1916

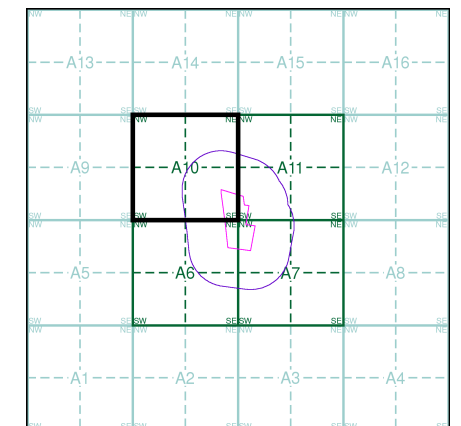
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

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Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



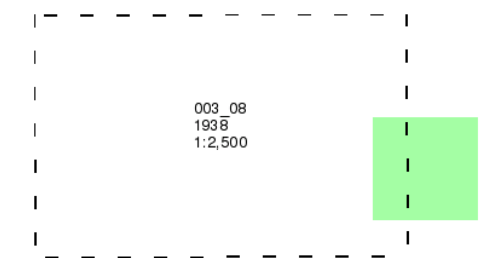
Durham

Published 1938

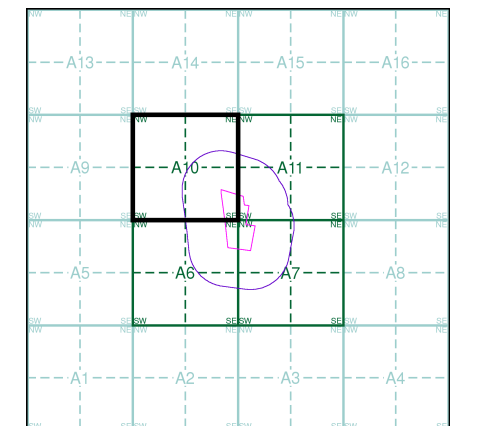
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A10

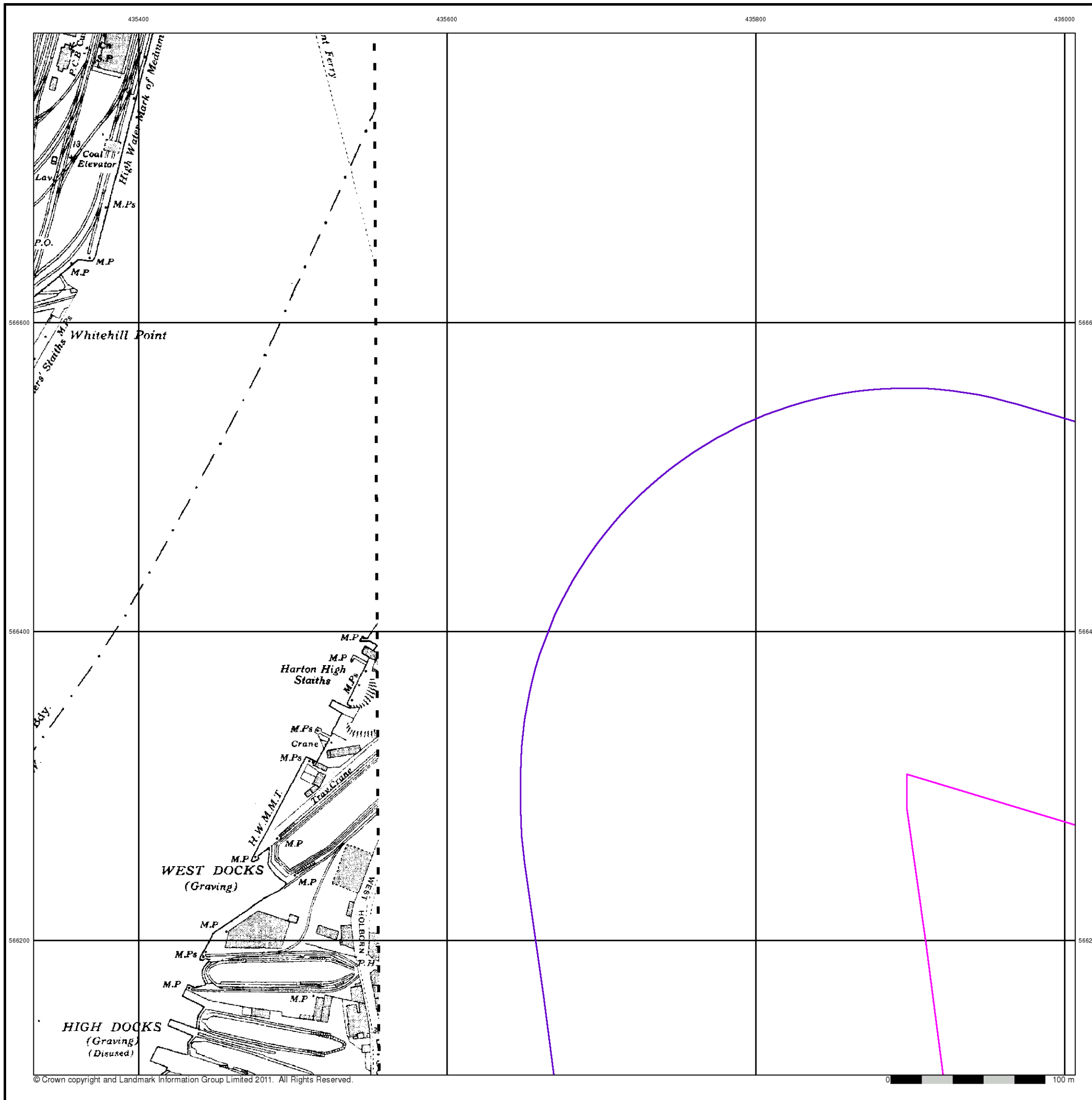


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Ordnance Survey Plan

Published 1956

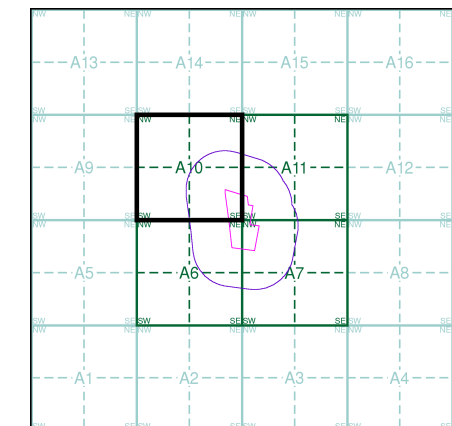
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NZ3566 1956 1:2,500	NZ3666 1956 1:2,500
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Historical Map - Segment A10

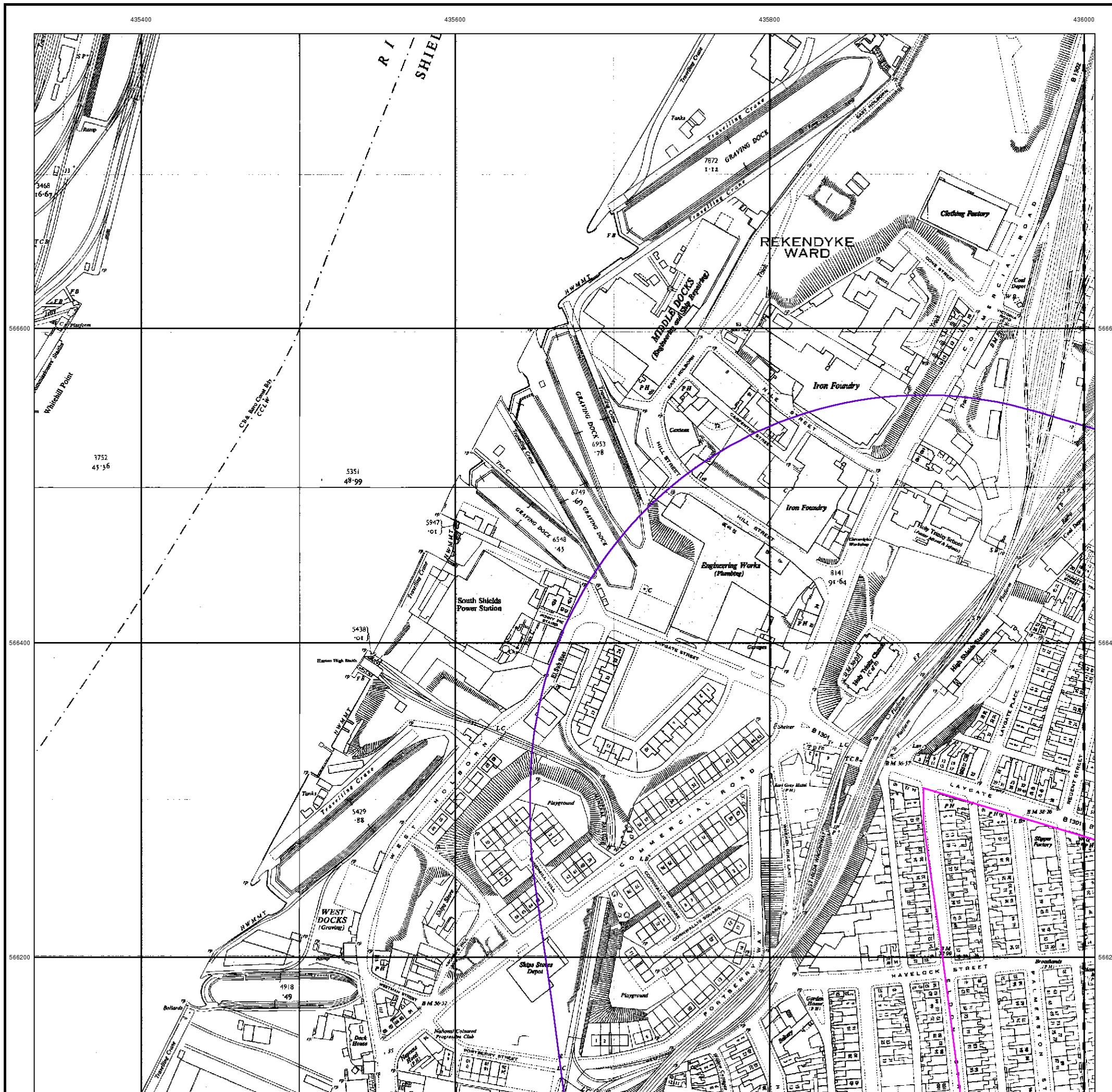


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Ordnance Survey Plan

Published 1956

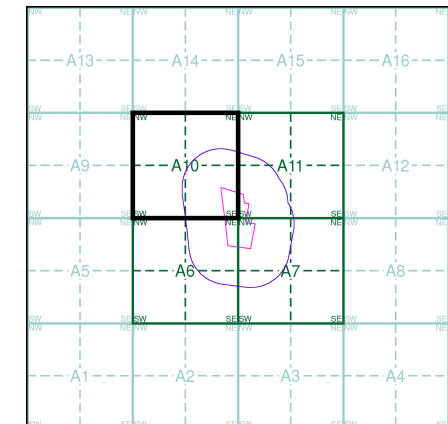
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NZ3566NW 1956 1:1,250	NZ3566NE 1956 1:1,250	NZ3666NW 1956 1:1,250
NZ3566SW 1956 1:1,250	NZ3566SE 1956 1:1,250	NZ3666SW 1956 1:1,250

Historical Map - Segment A10

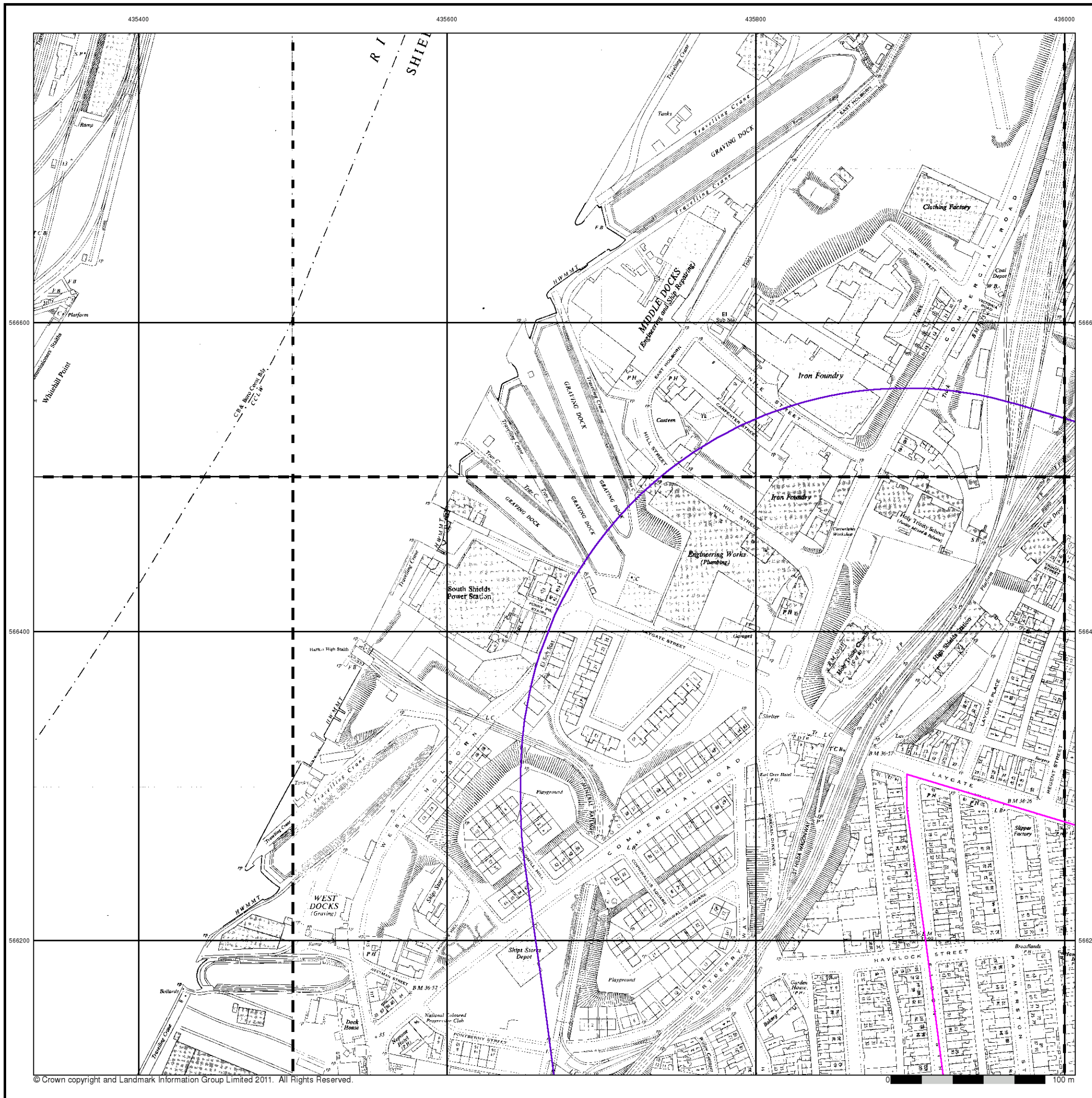


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Ordnance Survey Plan

Published 1963 - 1968

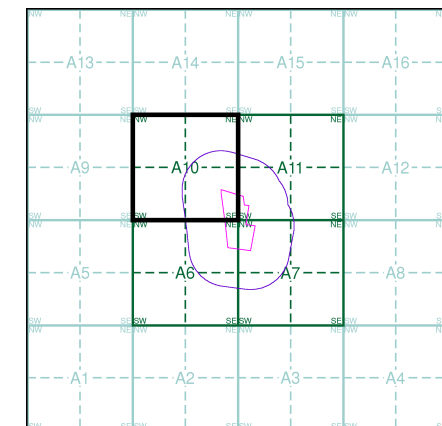
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NZ3566NW 1968 1:1,250	NZ3566NE 1968 1:1,250	NZ3666NW 1967 1:1,250
NZ3566SW 1968 1:1,250	NZ3566SE 1968 1:1,250	NZ3666SW 1963 1:1,250

Historical Map - Segment A10



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Ordnance Survey Plan

Published 1968 - 1989

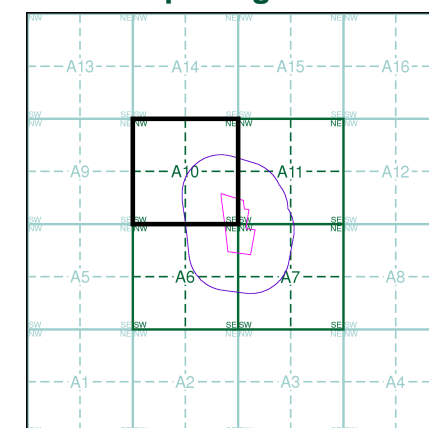
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NZ3566NW 1989 1:1,250	NZ3666NW 1975 1:1,250
NZ3566SE 1989 1:1,250	NZ3666SW 1968 1:1,250

Historical Map - Segment A10

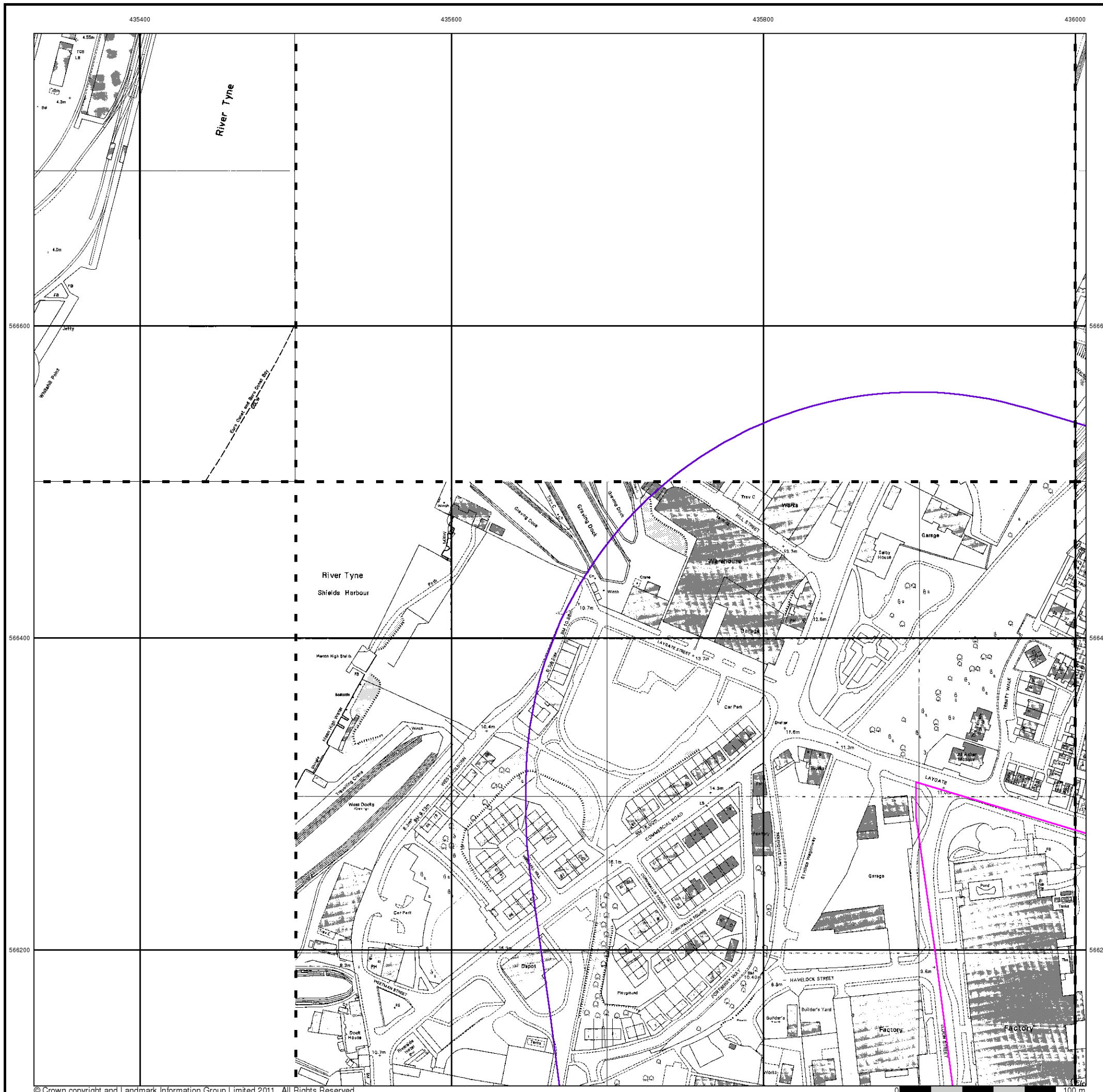


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Ordnance Survey Plan

Published 1970

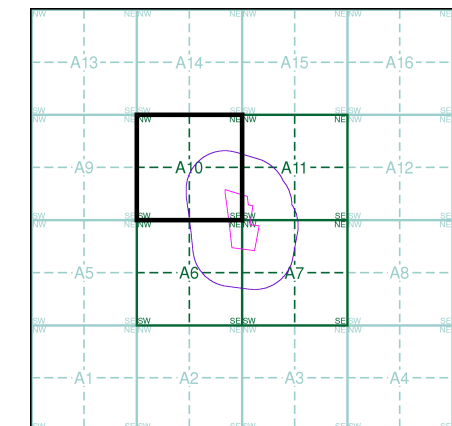
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NZ3566 1970 1:2,500	NZ3666 1970 1:2,500
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Historical Map - Segment A10

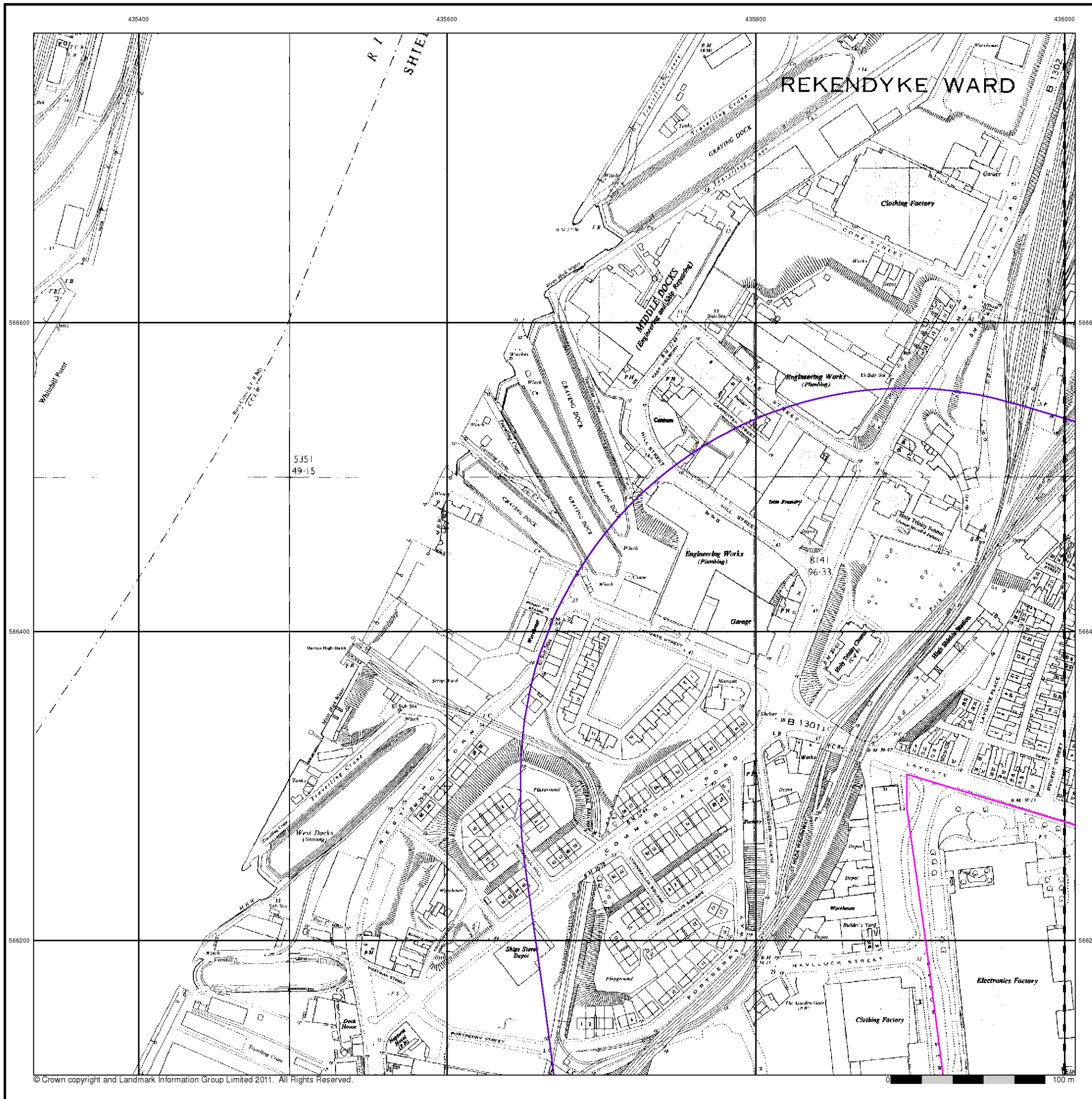


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear





Supply of Unpublished Survey Information

Published 1974 - 1975

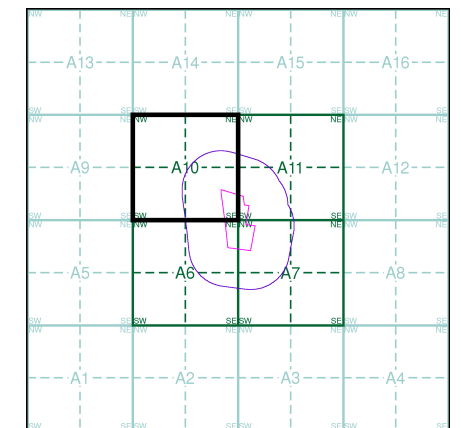
Source map scale - 1:1,250

SUSI maps (Supply of Unpublished Survey Information) were produced between 1972 and 1977, mainly for internal use at Ordnance Survey. These were more of a 'work-in-progress' plan as they showed updates of individual areas on a map. These maps were unpublished, and they do not represent a single moment in time. They were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

NZ3566NE 1975 1:1,250	NZ3666NW 1974 1:1,250
NZ3566SE 1974 1:1,250	NZ3666SW 1974 1:1,250

Historical Map - Segment A10



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



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Ordnance Survey Plan

Published 1975 - 1989

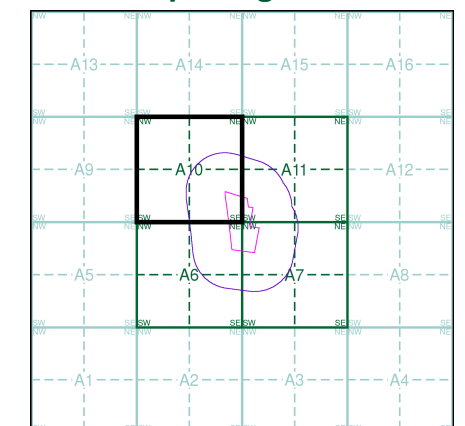
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

	NZ3666NW 1989 1:1,250
	NZ3666SW 1975 1:1,250

Historical Map - Segment A10

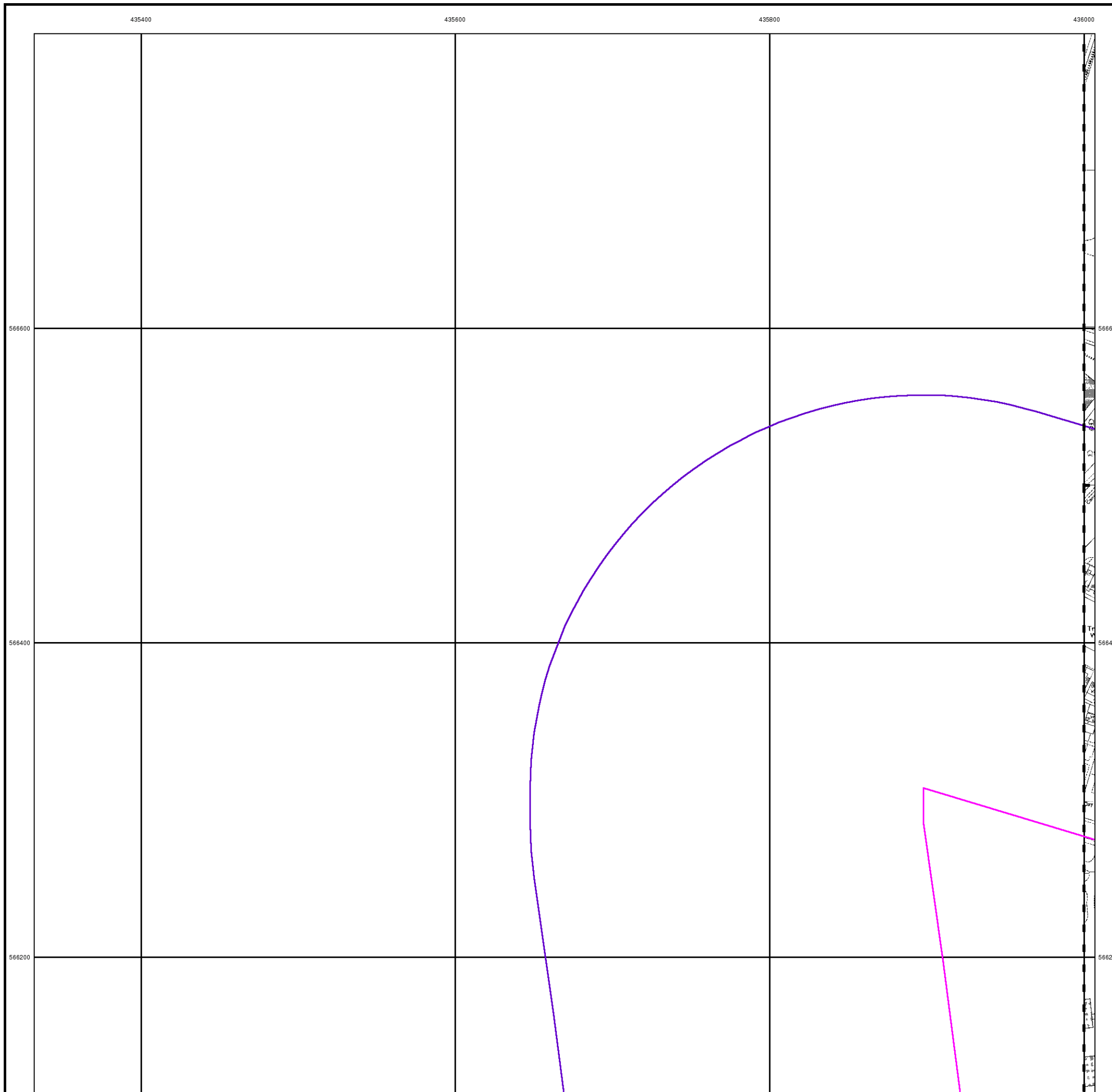


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Additional SIMs

Published 1981 - 1989

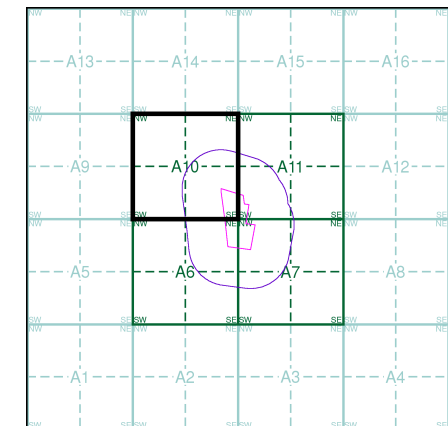
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

NZ3566NW 1982 1:1,250	NZ3566NE 1989 1:1,250	
NZ3566SW 1981 1:1,250	NZ3566SE 1982 1:1,250	NZ3666SW 1986 1:1,250

Historical Map - Segment A10

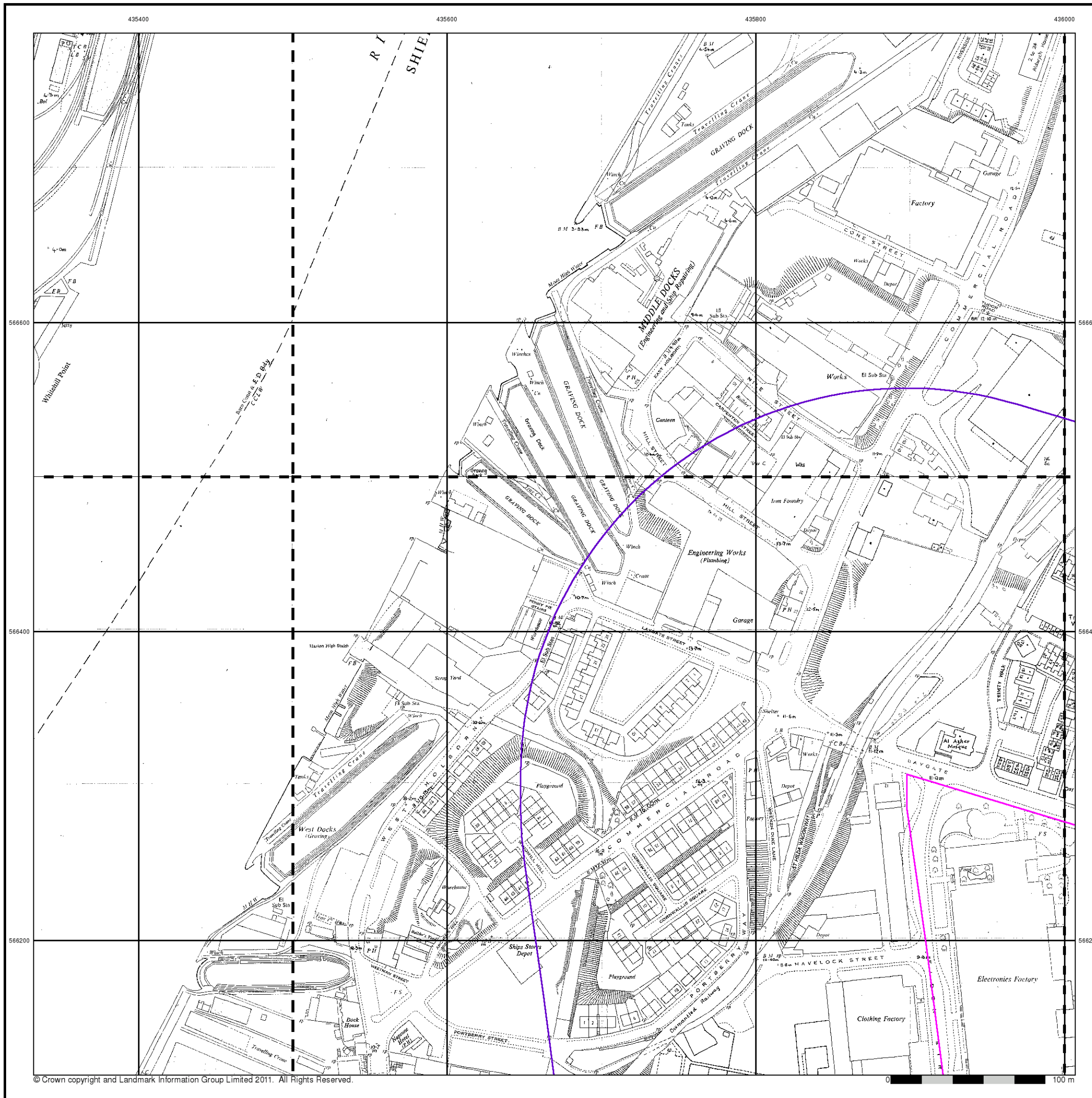


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



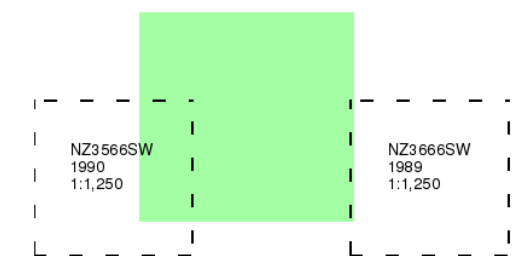
Additional SIMs

Published 1989 - 1990

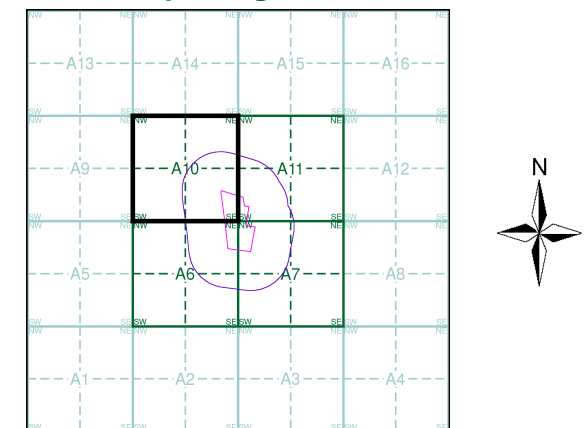
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A10

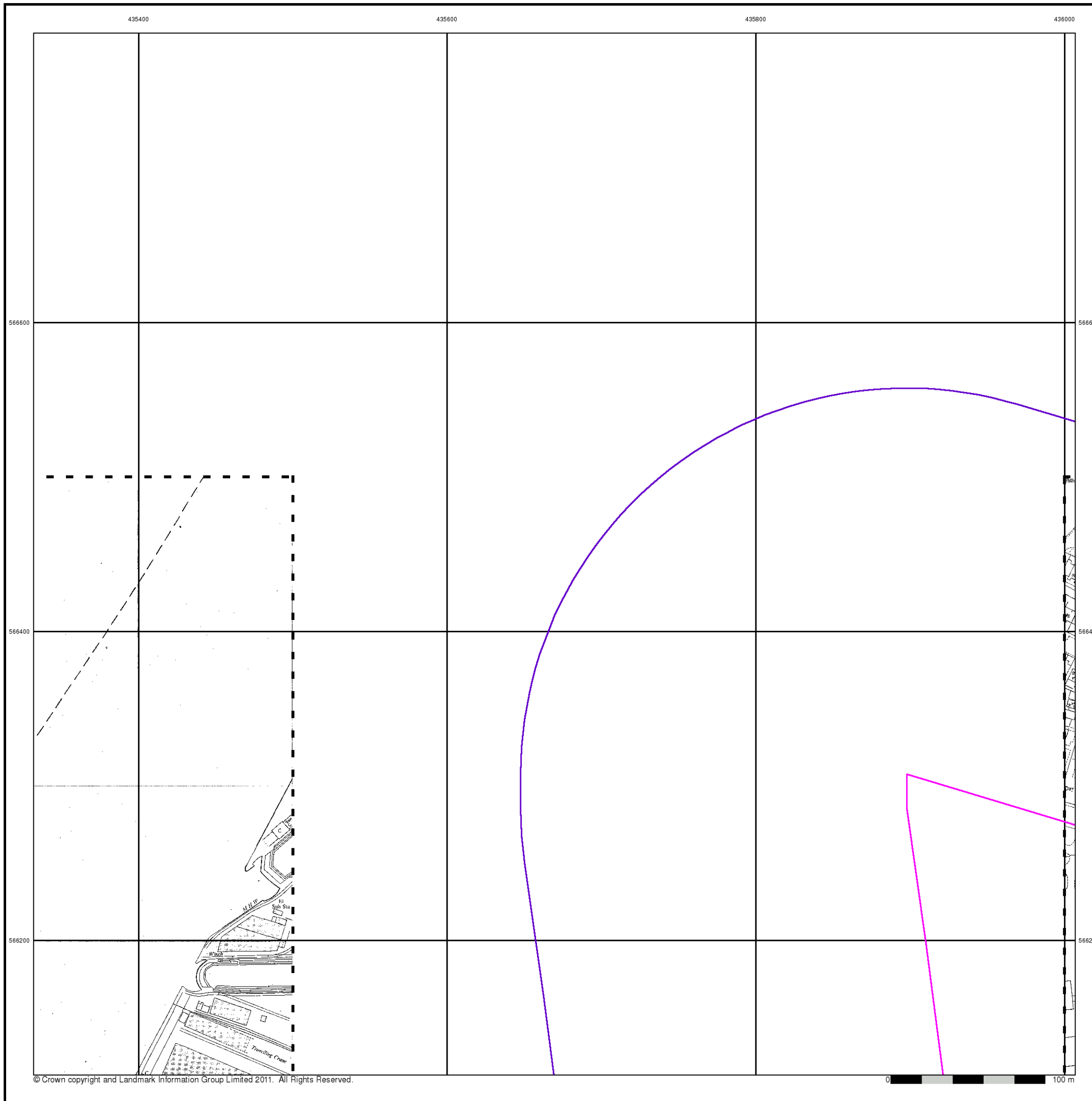


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Large-Scale National Grid Data

Published 1993

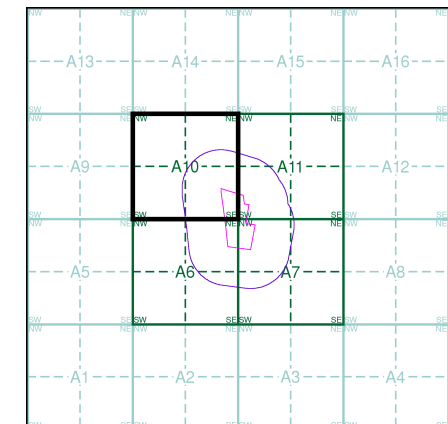
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

NZ3566NW 1993 1:1,250	NZ3566NE 1993 1:1,250	NZ3666NW 1993 1:1,250
NZ3566SW 1993 1:1,250	NZ3566SE 1993 1:1,250	NZ3666SW 1993 1:1,250

Historical Map - Segment A10



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Large-Scale National Grid Data

Published 1994 - 1997

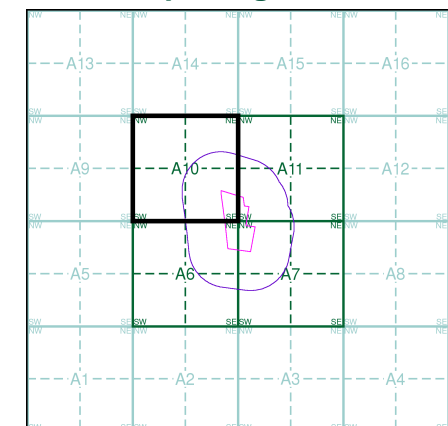
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

NZ3566NW 1997 1:1,250	NZ3566NE 1994 1:1,250	NZ3666NW 1995 1:1,250
NZ3566SE 1996 1:1,250		NZ3666SW 1994 1:1,250

Historical Map - Segment A10

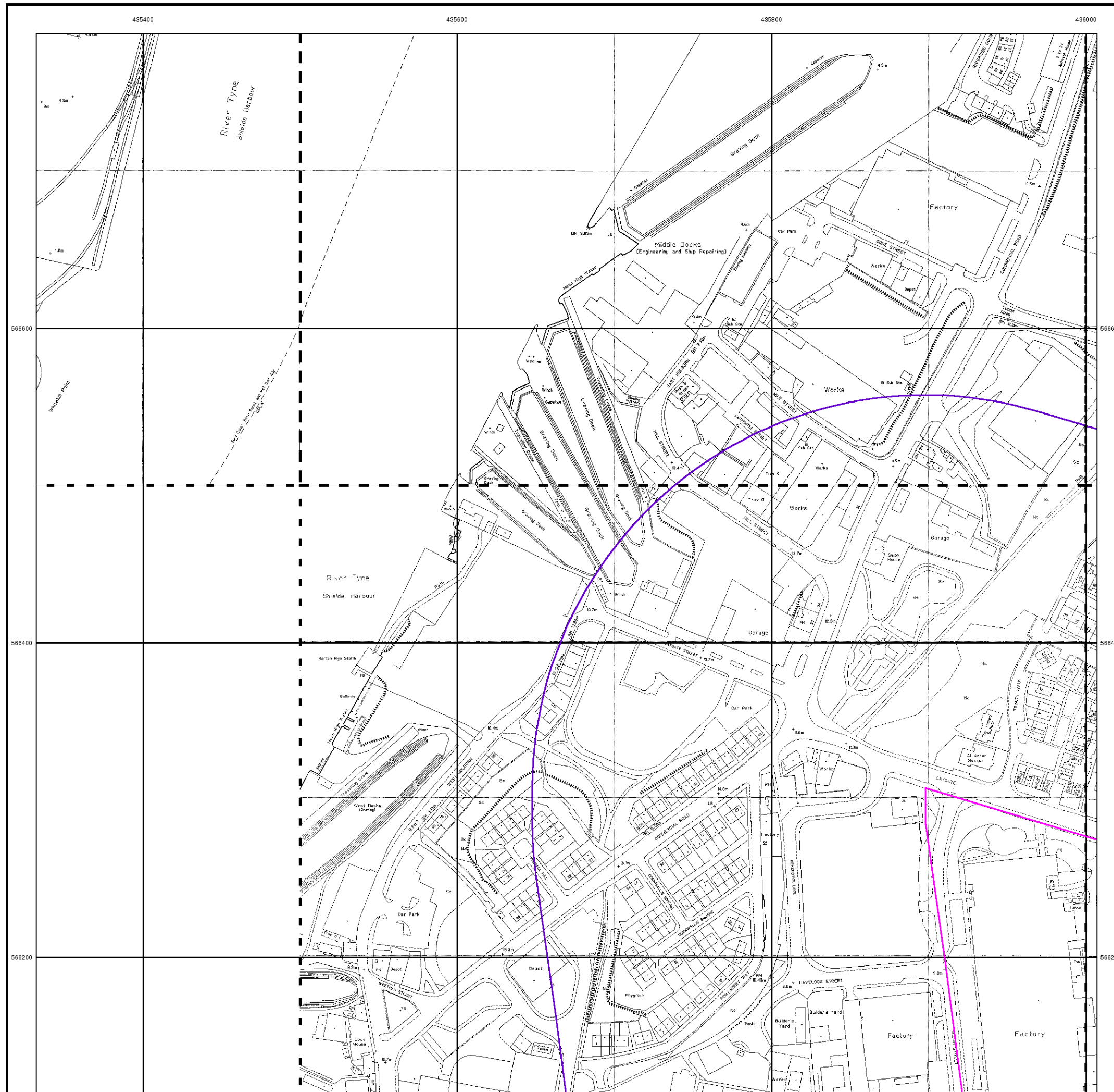


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



435400

435600

435800

436000



Large-Scale National Grid Data

Published 1994 - 1997

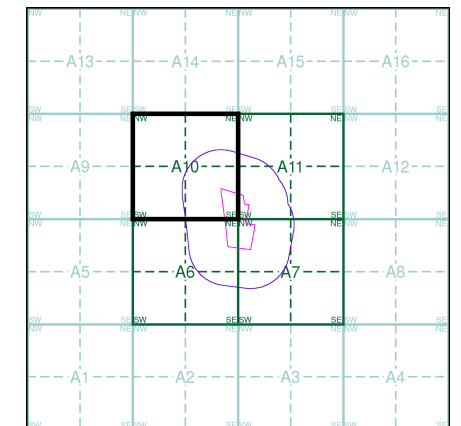
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

NZ3566NE 1994 1:1,250	NZ3666NW 1997 1:1,250
NZ3566SE 1997 1:1,250	

Historical Map - Segment A10



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS,
 Tyne and Wear



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Historical Mapping Legends

Ordnance Survey County Series and Ordnance Survey Plan 1:2,500

Quarry **Gravel Pit** **Sand Pit**
Clay Pit **Shingle** **Refuse Heap**
Sloping Masonry **Flat Rock**
Marsh **Reeds** **Osiers**
Rough Pasture **Furze** **Wood**
Mixed Wood **Brushwood** **Orchard**
Fir **Ford** **Stepping Stones**
Ferry **Waterfall** **Lock**
Trig. Station **Altitude at Trig. Station**
B.M. 325.9 **Bench Mark** **Surface Level**
Arrow denotes flow of water **Antiquities (site of)**
Cutting **Embankment**
Railway crossing Road **Level Crossing** **Road crossing Railway**
Railway crossing River or Canal **Road over single stream** **Road over River or Canal**
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
County Borough Boundary (England)
Co. Boro. Bdy.
County Burgh Boundary (Scotland)
Boundary Post or Stone **Police Call Box**
B.R. **Bridle Road** **P** **Pump**
E.P. **Electricity Pylon** **S.P.** **Signal Post**
F.B. **Foot Bridge** **Sl.** **Sluice**
F.P. **Foot Path** **Sp.** **Spring**
G.P. **Guide Post or Board** **T.C.B.** **Telephone Call Box**
M.S. **Mile Stone** **Tr.** **Trough**
M.P. M.R. **Mooring Post or Ring** **W** **Well**

Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250

Inactive Quarry, Chalk Pit or Clay Pit **Active Quarry, Chalk Pit or Clay Pit**
Rock **Boulders**
Cliff **Slopes** **Top**
Roofed Building **Glazed Roof Building**
Sloping Masonry **Archway**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Bench Mark** **Antiquity (site of)**
Cave Entrance **Triangulation Station** **Electricity Pylon**
Electricity Transmission Line
County Boundary (Geographical)
County & Civil Parish Boundary
Civil Parish Boundary
Admin. County or County Bor. Boundary
London Borough Boundary
Symbol marking point where boundary mereing changes
BH **Beer House** **P** **Pillar, Pole or Post**
BP, BS **Boundary Post or Stone** **PO** **Post Office**
Cn, C **Capstan, Crane** **PC** **Public Convenience**
Chy **Chimney** **PH** **Public House**
D Fn **Drinking Fountain** **Pp** **Pump**
EI P **Electricity Pillar or Post** **SB, S Br** **Signal Box or Bridge**
FAP **Fire Alarm Pillar** **SP, SL** **Signal Post or Light**
FB **Foot Bridge** **Spr** **Spring**
GP **Guide Post** **Tk** **Tank or Track**
H **Hydrant or Hydraulic** **TCB** **Telephone Call Box**
LC **Level Crossing** **TCP** **Telephone Call Post**
MH **Manhole** **Tr** **Trough**
MP **Mile Post or Mooring Post** **Wr Pt, Wr T** **Water Point, Water Tap**
MS **Mile Stone** **W** **Well**
NTL **Normal Tidal Limit** **Wd Pp** **Wind Pump**

Large-Scale National Grid Data 1:2,500 and 1:1,250

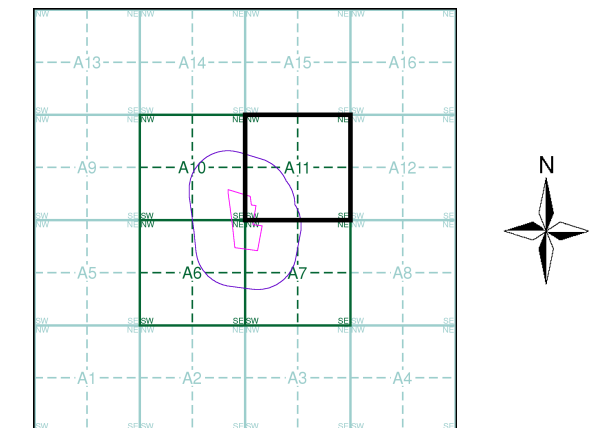
Cliff **Slopes** **Top**
Rock **Rock (scattered)**
Boulders **Boulders (scattered)**
Positioned Boulder **Scree**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Triangulation Station** **Antiquity (site of)**
Electricity Transmission Line **Electricity Pylon**
B.M. 231.60m **Bench Mark** **Buildings with Building Seed**
Roofed Building **Glazed Roof Building**
Civil parish/community boundary
District boundary
County boundary
Boundary post/stone
Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)
Bks **Barracks** **P** **Pillar, Pole or Post**
Bty **Battery** **PO** **Post Office**
Cemy **Cemetery** **PC** **Public Convenience**
Chy **Chimney** **Pp** **Pump**
Cis **Cistern** **Ppg Sta** **Pumping Station**
Dismtd Rly **Dismantled Railway** **PW** **Place of Worship**
EI Gen Sta **Electricity Generating Station** **Sewage Ppg Sta** **Sewage Pumping Station**
EI P **Electricity Pole, Pillar** **SB, S Br** **Signal Box or Bridge**
EI Sub Sta **Electricity Sub Station** **SP, SL** **Signal Post or Light**
FB **Filter Bed** **Spr** **Spring**
Fn / D Fn **Fountain / Drinking Ftn.** **Tk** **Tank or Track**
Gas Gov **Gas Valve Compound** **Tr** **Trough**
GVC **Gas Governor** **Wd Pp** **Wind Pump**
GP **Guide Post** **Wr Pt, Wr T** **Water Point, Water Tap**
MH **Manhole** **Wks** **Works (building or area)**
MP, MS **Mile Post or Mile Stone** **W** **Well**



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Durham	1:2,500	1858	2
Northumberland	1:2,500	1861	3
Durham	1:2,500	1897	4
Durham	1:2,500	1915	5
Ordnance Survey Plan	1:2,500	1956	6
Ordnance Survey Plan	1:1,250	1956	7
Ordnance Survey Plan	1:1,250	1963 - 1975	8
Ordnance Survey Plan	1:1,250	1968 - 1983	9
Ordnance Survey Plan	1:2,500	1970	10
Supply of Unpublished Survey Information	1:1,250	1974	11
Ordnance Survey Plan	1:1,250	1975 - 1989	12
Additional SIMs	1:1,250	1980 - 1986	13
Additional SIMs	1:1,250	1989 - 1991	14
Additional SIMs	1:1,250	1992	15
Large-Scale National Grid Data	1:1,250	1993	16
Large-Scale National Grid Data	1:1,250	1994 - 1996	17
Large-Scale National Grid Data	1:1,250	1997	18

Historical Map - Segment A11



Order Details

Order Number: 35564740_1_1
Customer Ref: 1004469
National Grid Reference: 435990, 566110
Slice: A
Site Area (Ha): 5.6
Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



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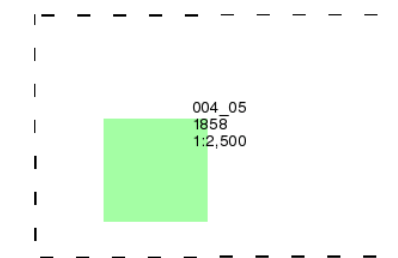
Durham

Published 1858

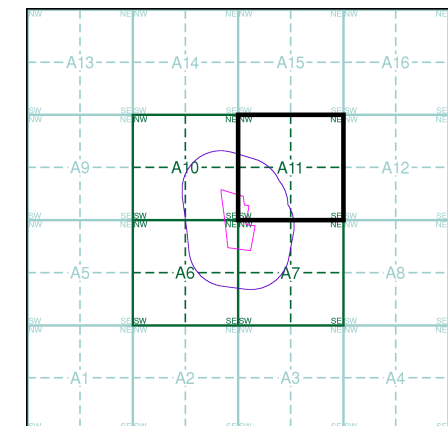
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A11

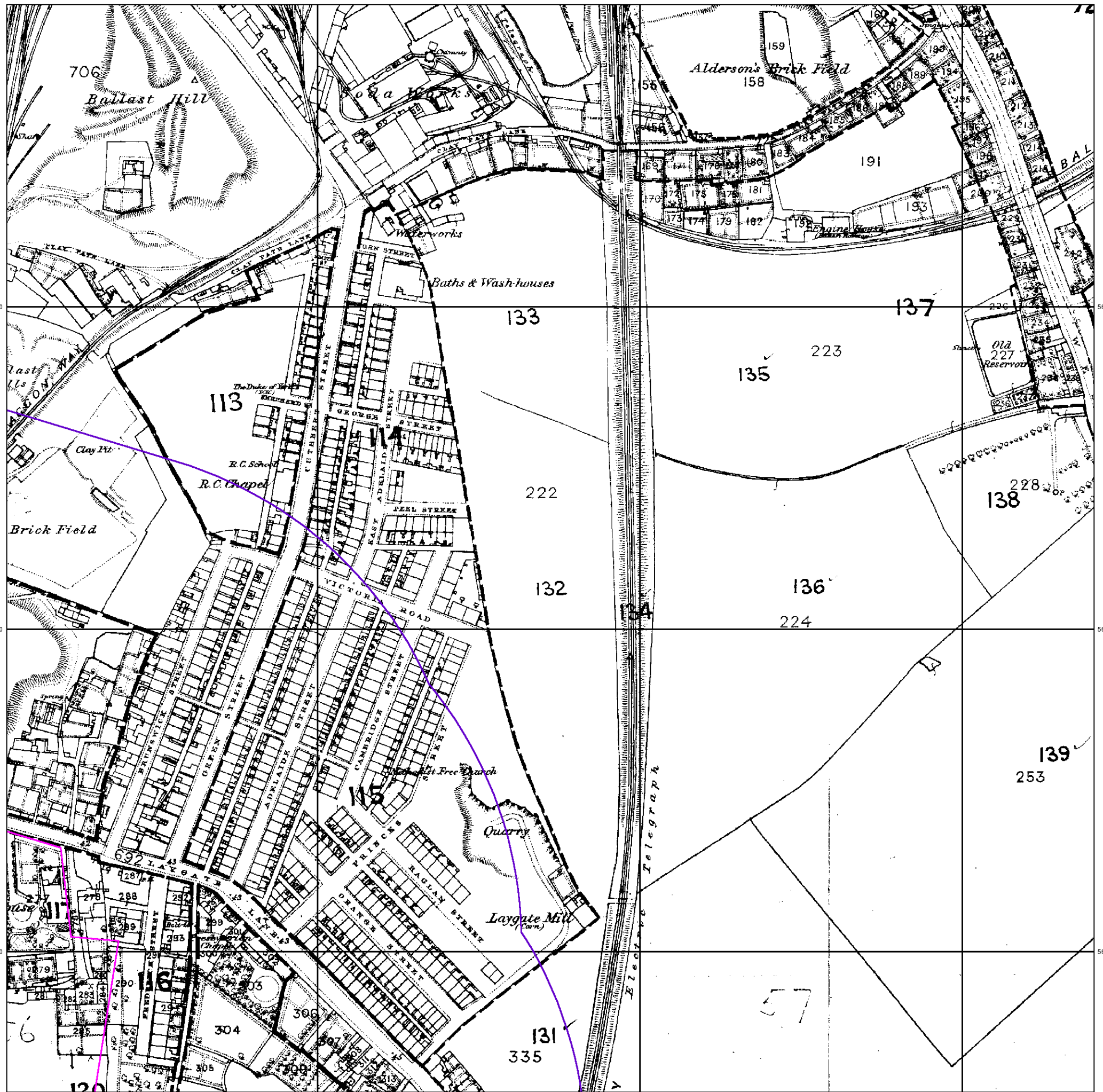


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



436200

436400

436600



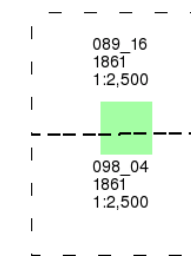
Northumberland

Published 1861

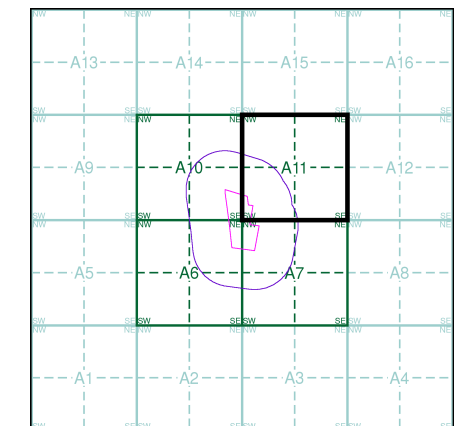
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A11



Order Details

Order Number: 35564740_1_1
Customer Ref: 1004469
National Grid Reference: 435990, 566110
Slice: A
Site Area (Ha): 5.6
Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



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566800

566800

566400

566400

566200

566200

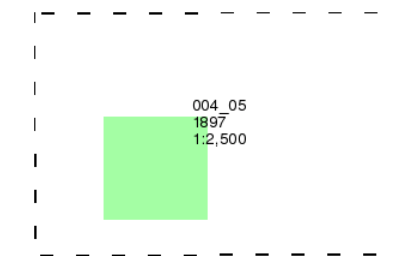
Durham

Published 1897

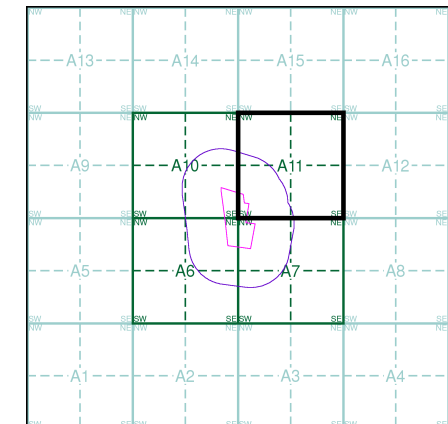
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A11

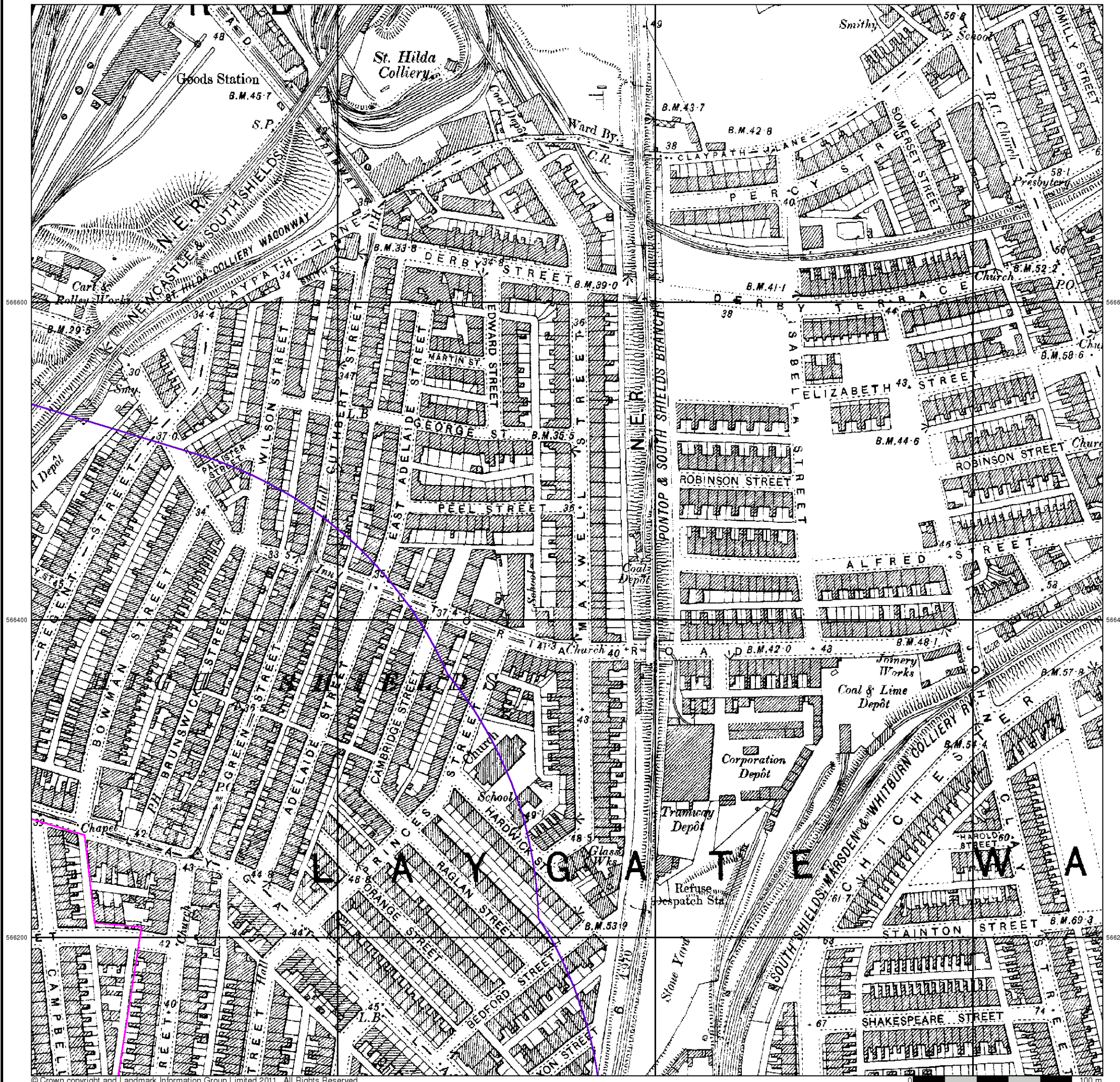


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



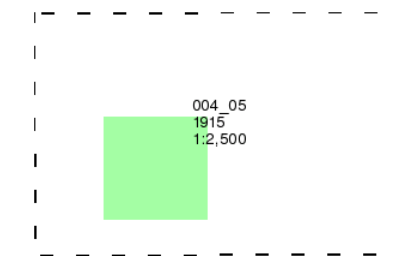
Durham

Published 1915

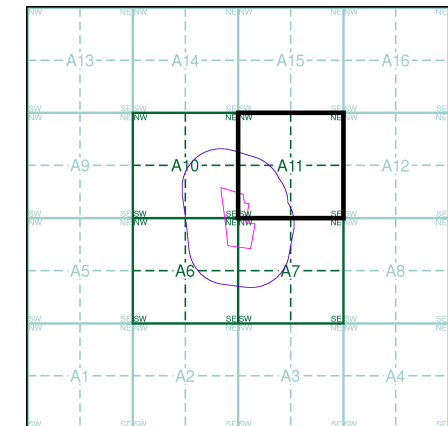
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A11

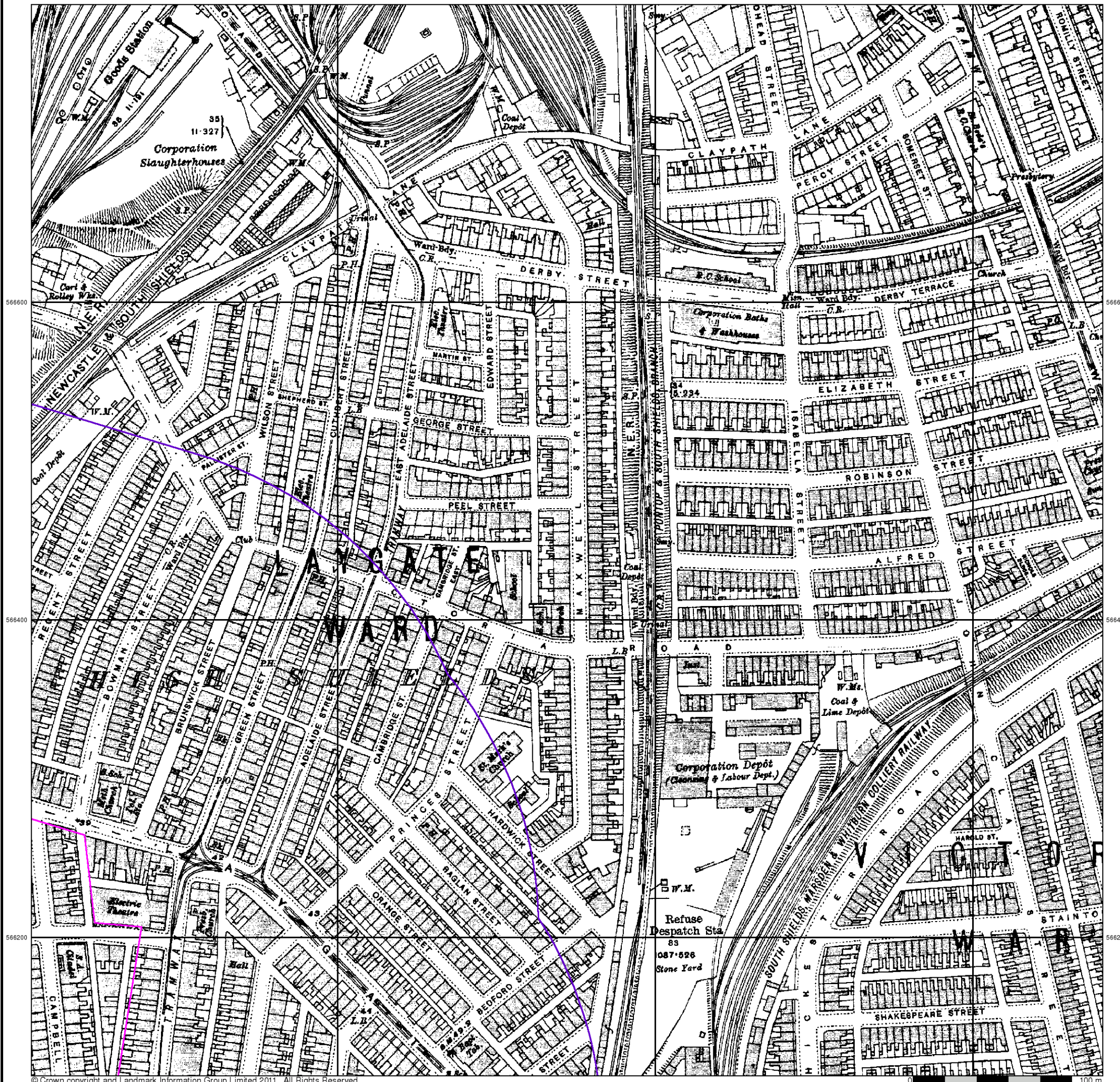


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



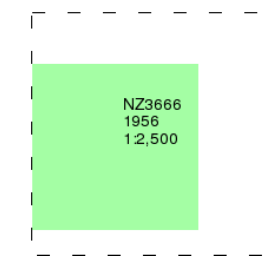
Ordnance Survey Plan

Published 1956

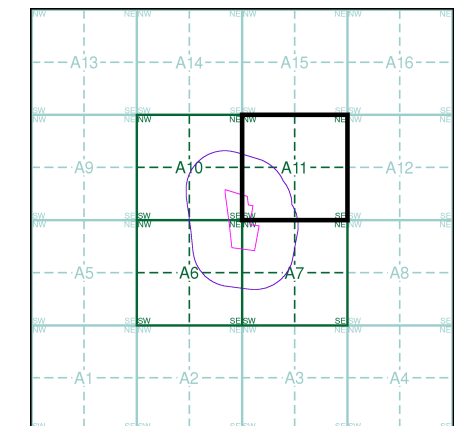
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A11

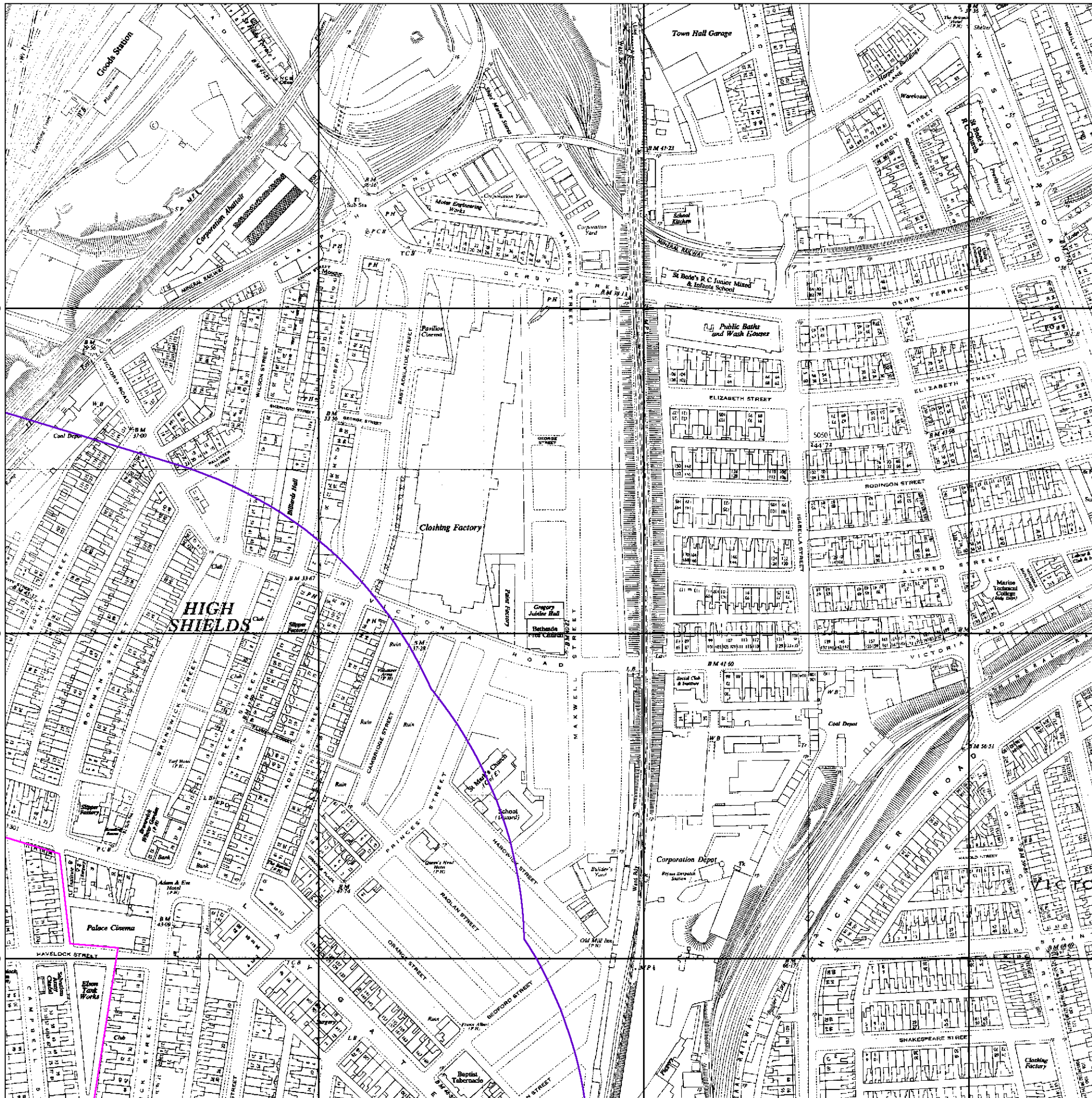


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Ordnance Survey Plan

Published 1956

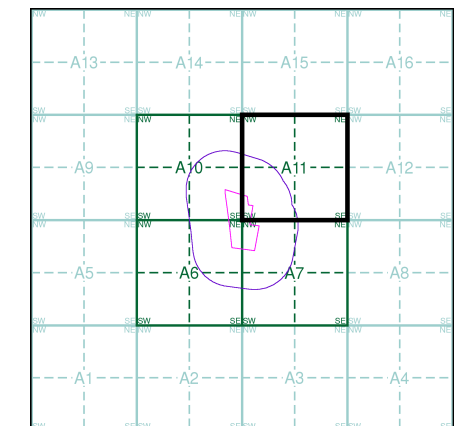
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NZ3666NW 1956 1:1,250	NZ3666NE 1956 1:1,250
NZ3666SW 1956 1:1,250	NZ3666SE 1956 1:1,250

Historical Map - Segment A11

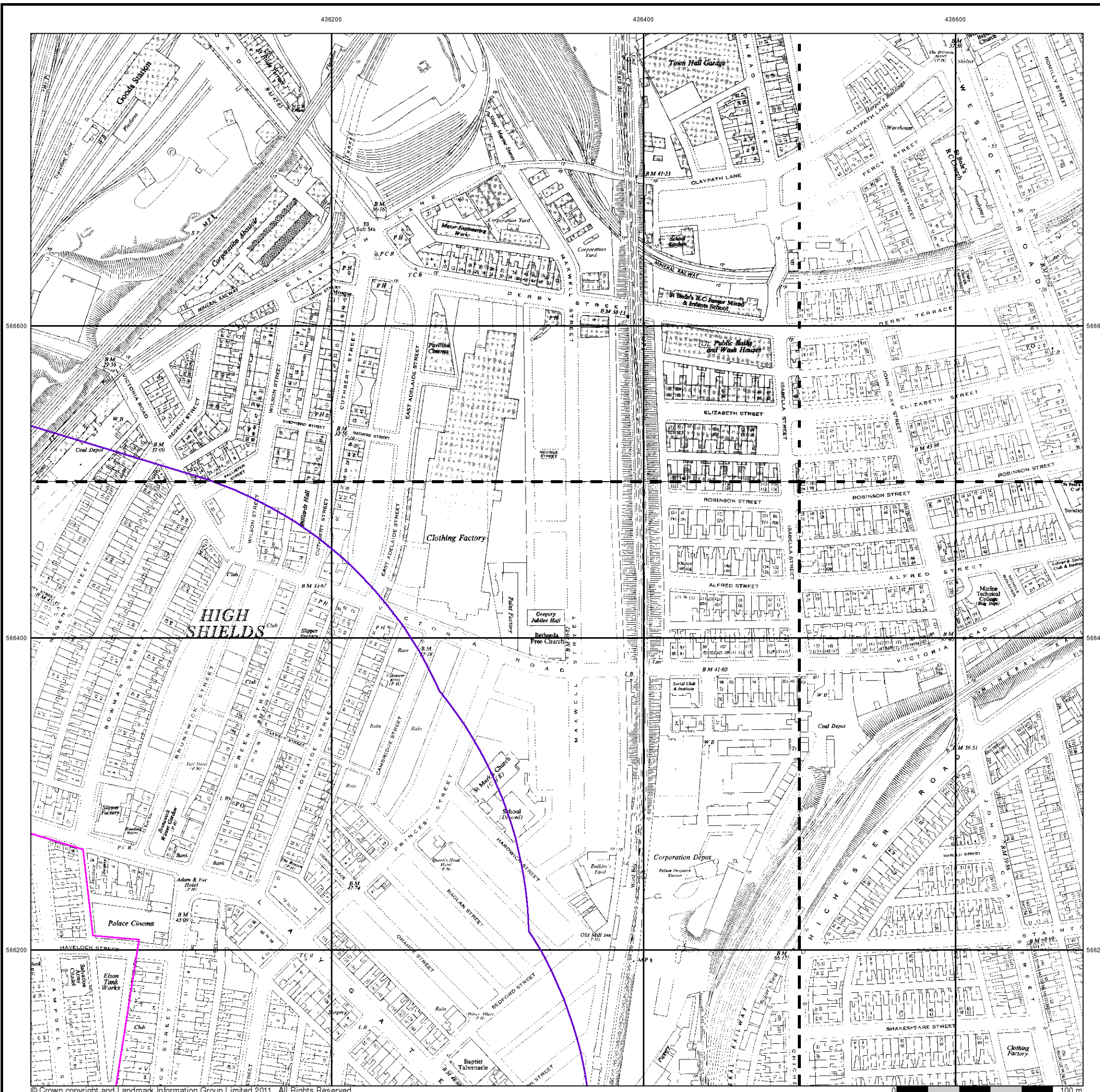


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS,
 Tyne and Wear



436200

436400

436600



Ordnance Survey Plan

Published 1963 - 1975

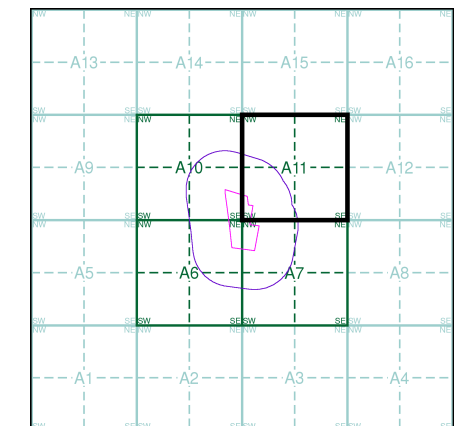
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NZ3666NW 1967 1:1,250	NZ3666NE 1975 1:1,250
NZ3666SW 1963 1:1,250	NZ3666SE 1975 1:1,250

Historical Map - Segment A11



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

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436200

436400

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Ordnance Survey Plan

Published 1968 - 1983

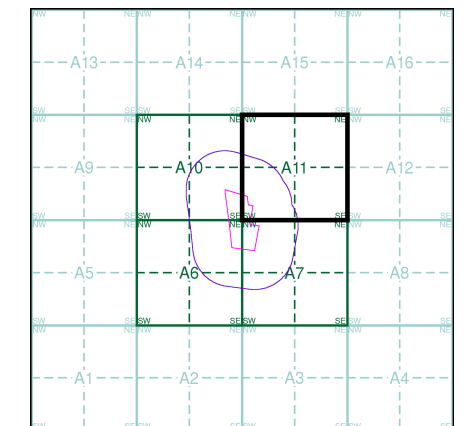
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NZ3666NW 1975 1:1,250	
NZ3666SW 1968 1:1,250	NZ3666SE 1983 1:1,250

Historical Map - Segment A11



Order Details

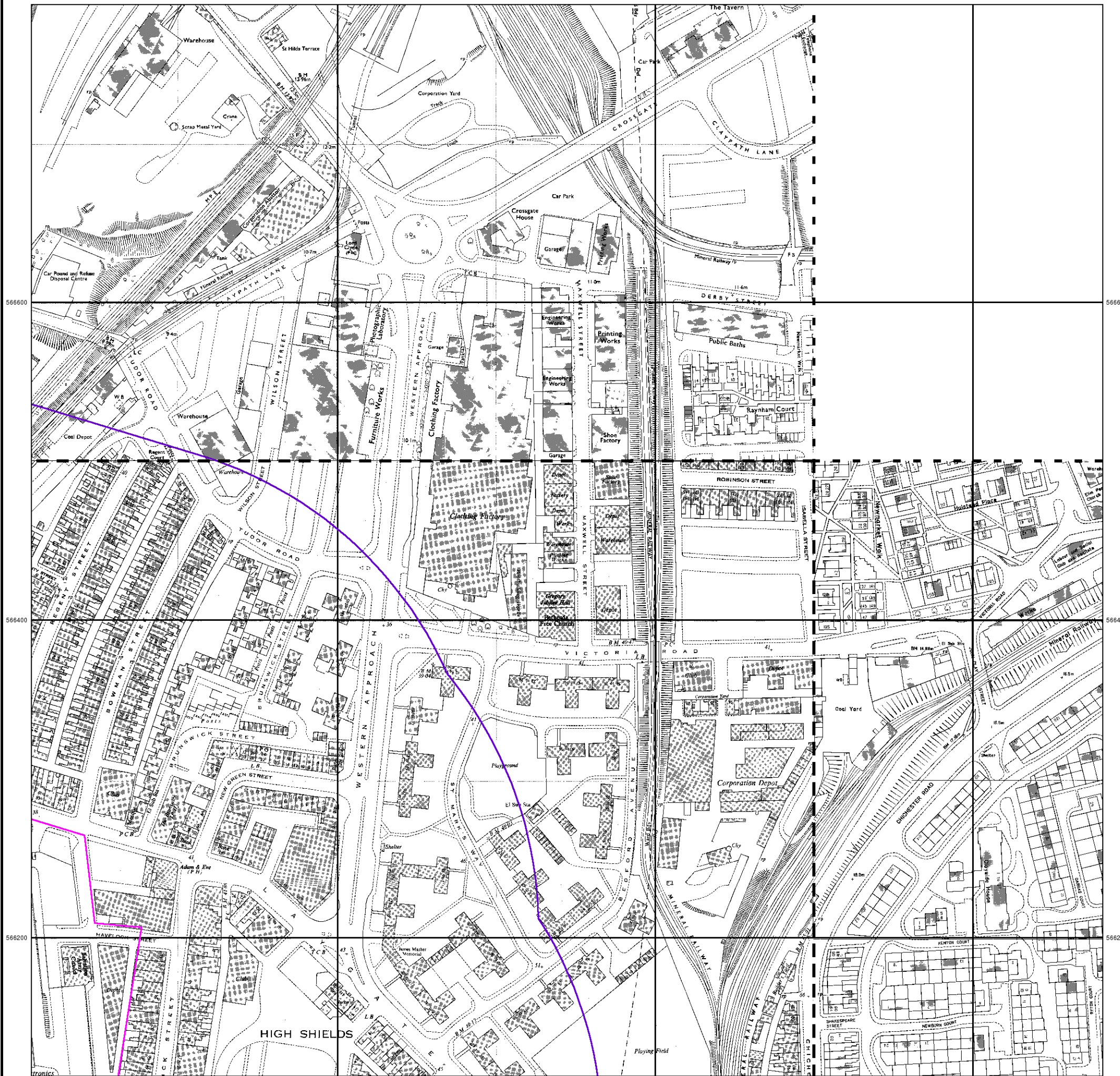
Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS,
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436200

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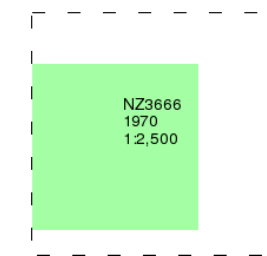
Ordnance Survey Plan

Published 1970

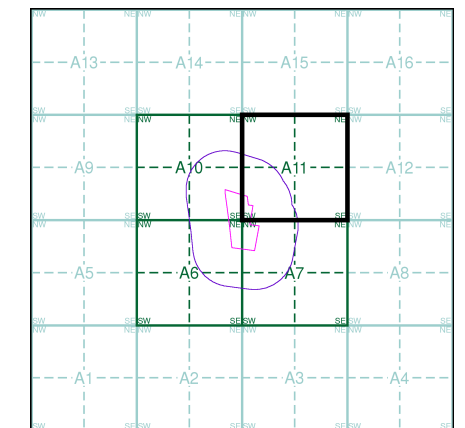
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A11



Order Details

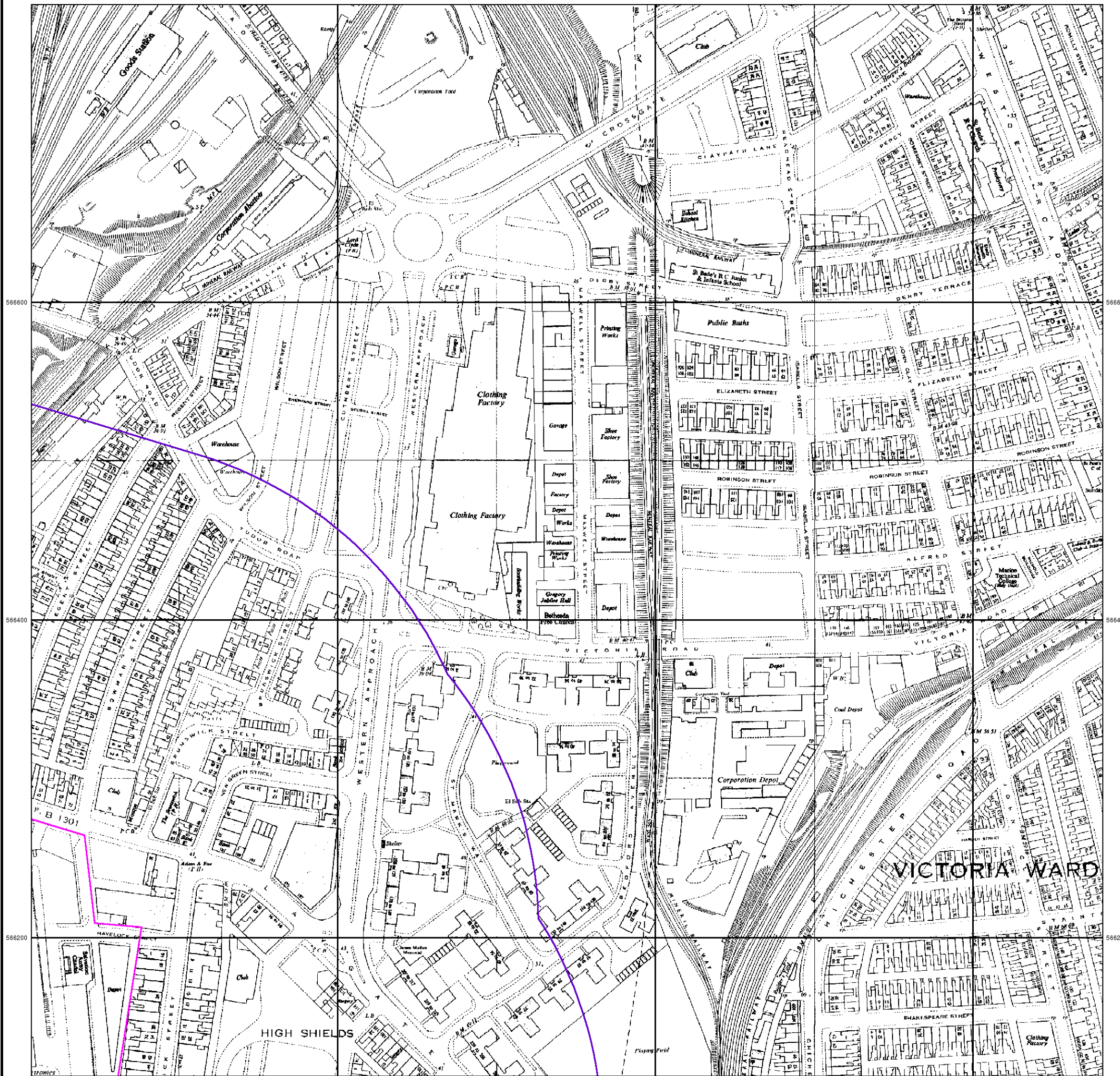
Order Number:	35564740_1_1
Customer Ref:	1004469
National Grid Reference:	435990, 566110
Slice:	A
Site Area (Ha):	5.6
Search Buffer (m):	250

Site Details

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Supply of Unpublished Survey Information

Published 1974

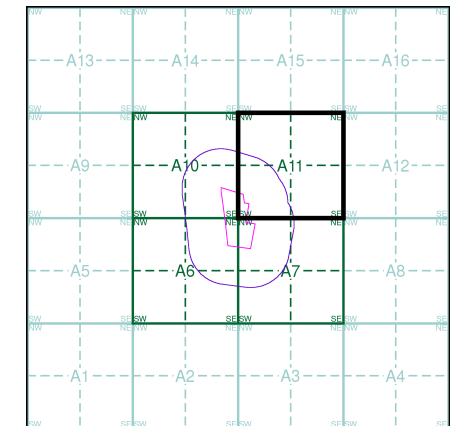
Source map scale - 1:1,250

SUSI maps (Supply of Unpublished Survey Information) were produced between 1972 and 1977, mainly for internal use at Ordnance Survey. These were more of a 'work-in-progress' plan as they showed updates of individual areas on a map. These maps were unpublished, and they do not represent a single moment in time. They were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

NZ3666NW 1974 1:1,250	NZ3666NE 1974 1:1,250
NZ3666SW 1974 1:1,250	NZ3666SE 1974 1:1,250

Historical Map - Segment A11



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Ordnance Survey Plan

Published 1975 - 1989

Source map scale - 1:1,250

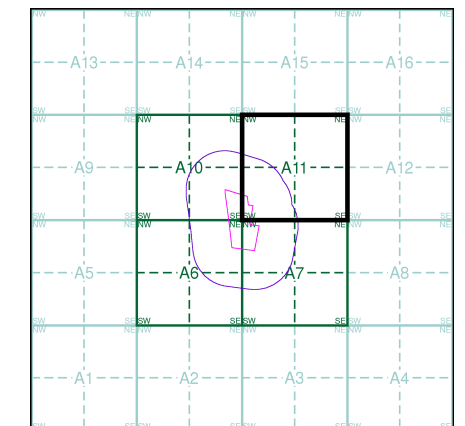
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NZ3666NW
1989
1:1,250

NZ3666SW
1975
1:1,250

Historical Map - Segment A11

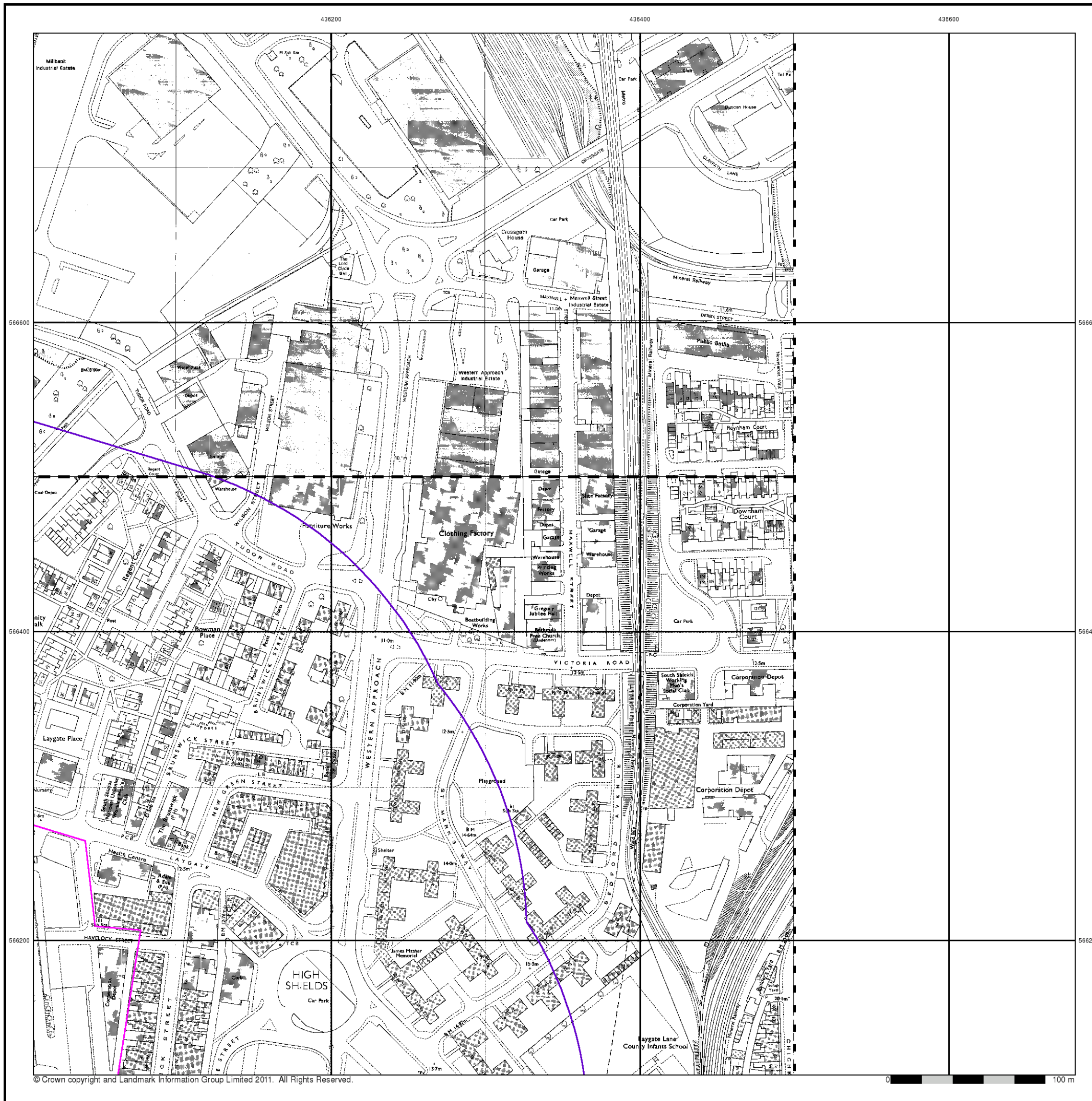


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



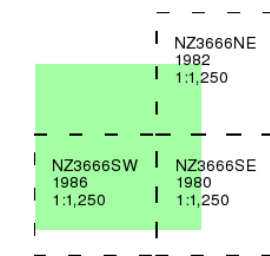
Additional SIMs

Published 1980 - 1986

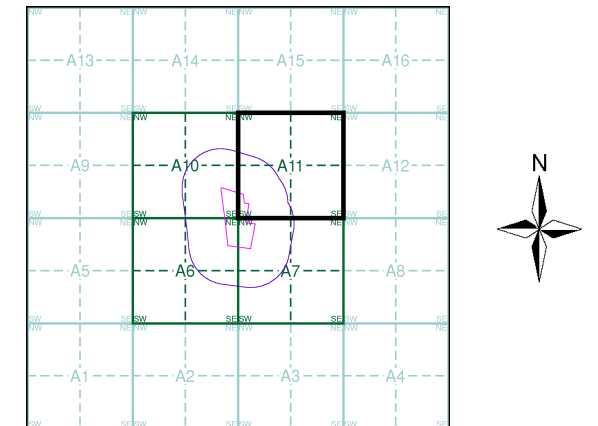
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A11

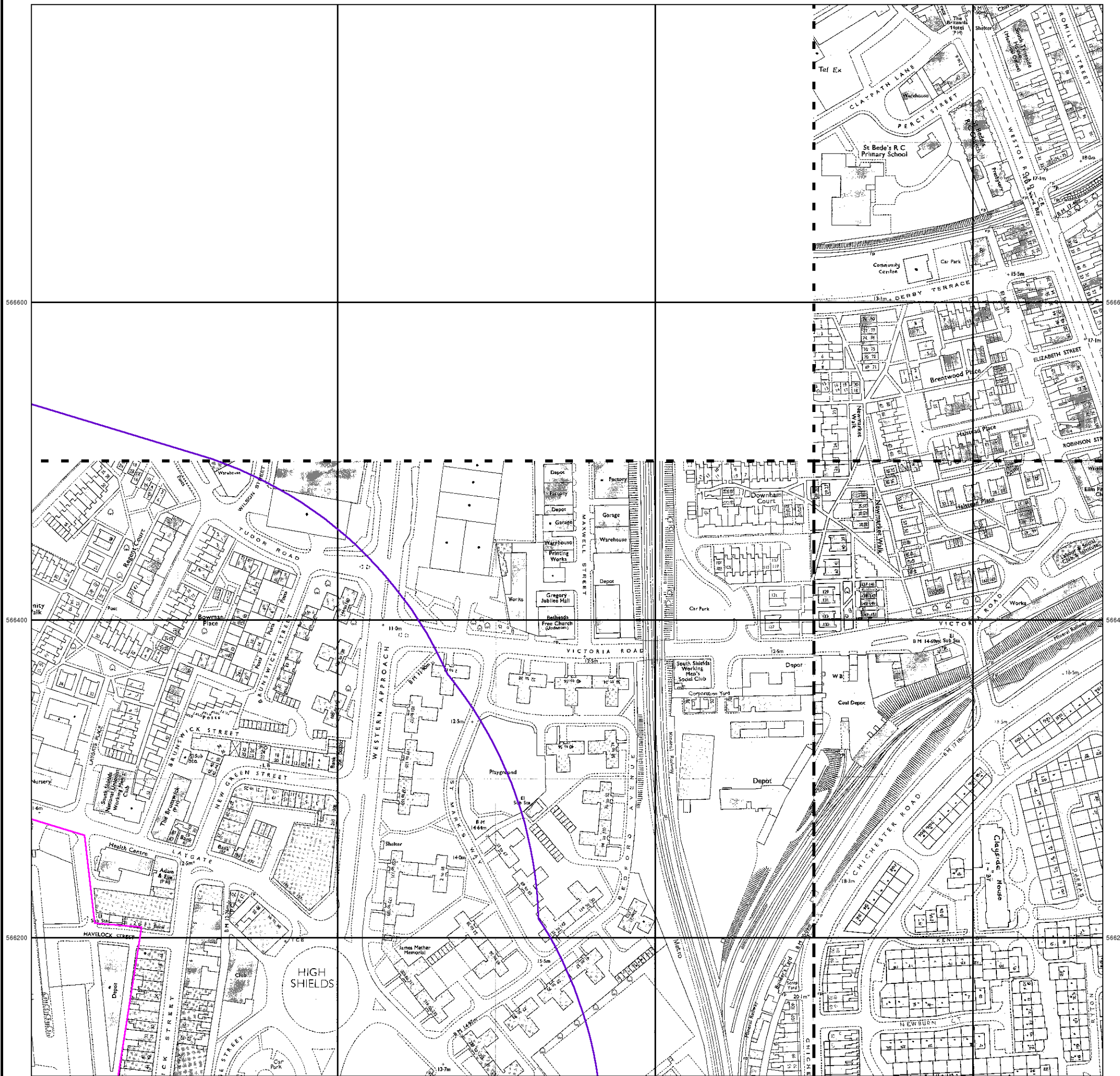


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



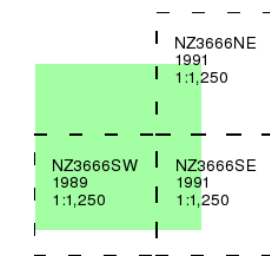
Additional SIMs

Published 1989 - 1991

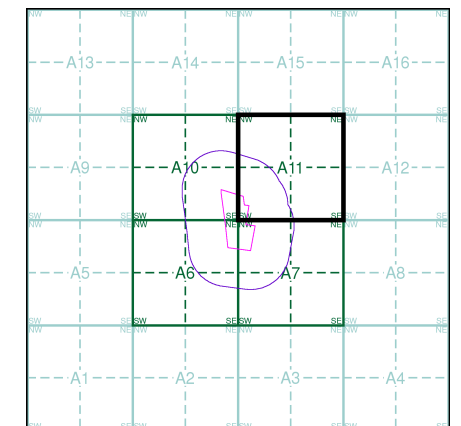
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A11

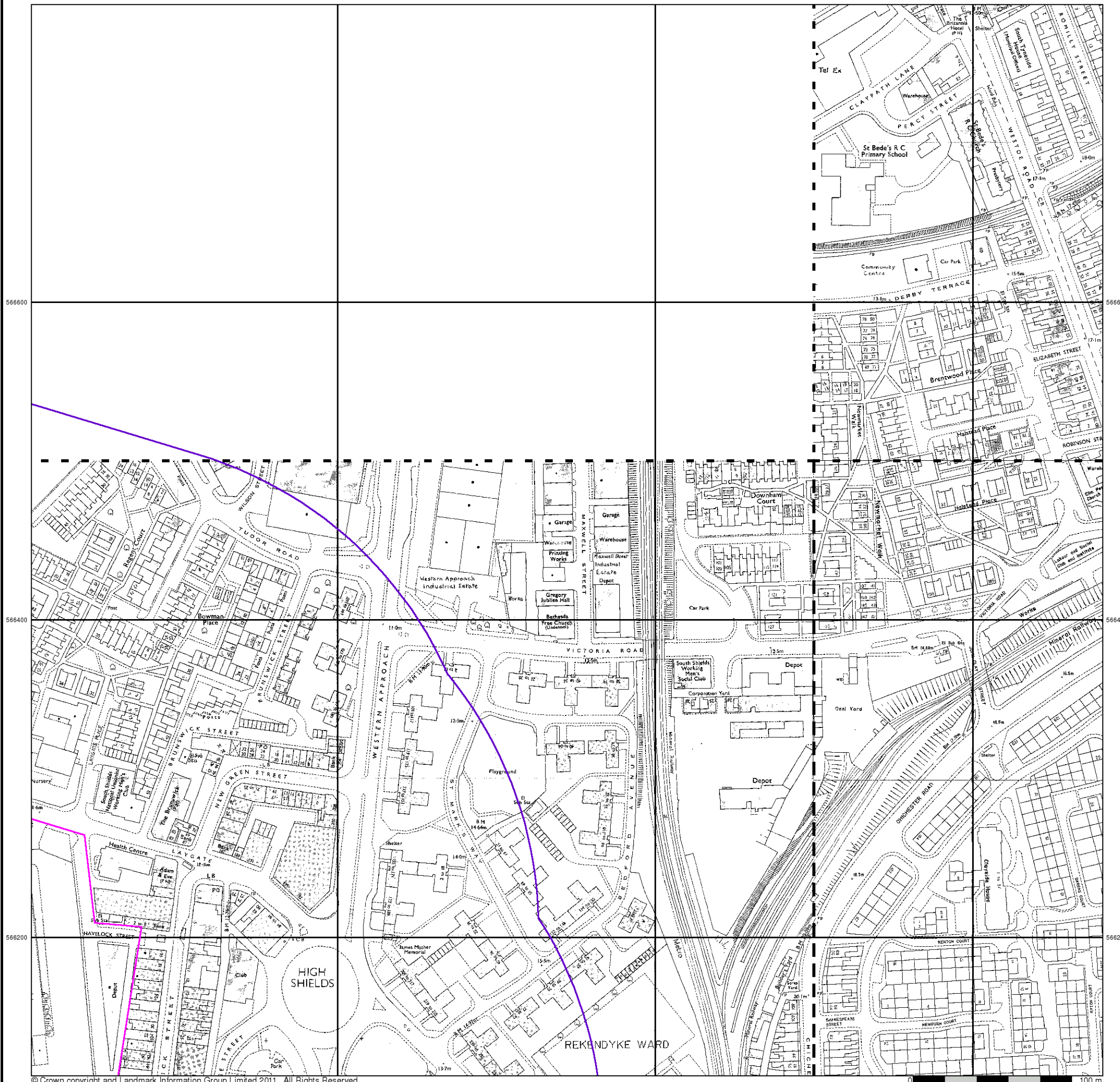


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



436200

436400

436600



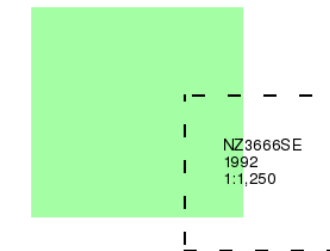
Additional SIMs

Published 1992

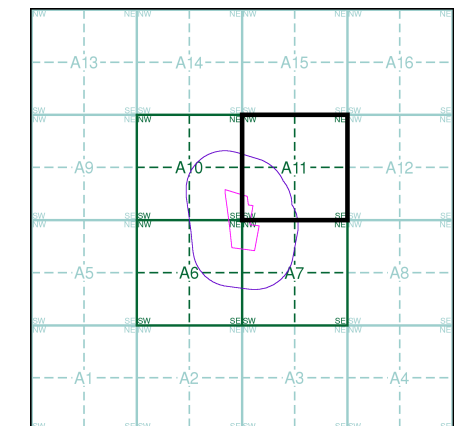
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A11



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



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566600

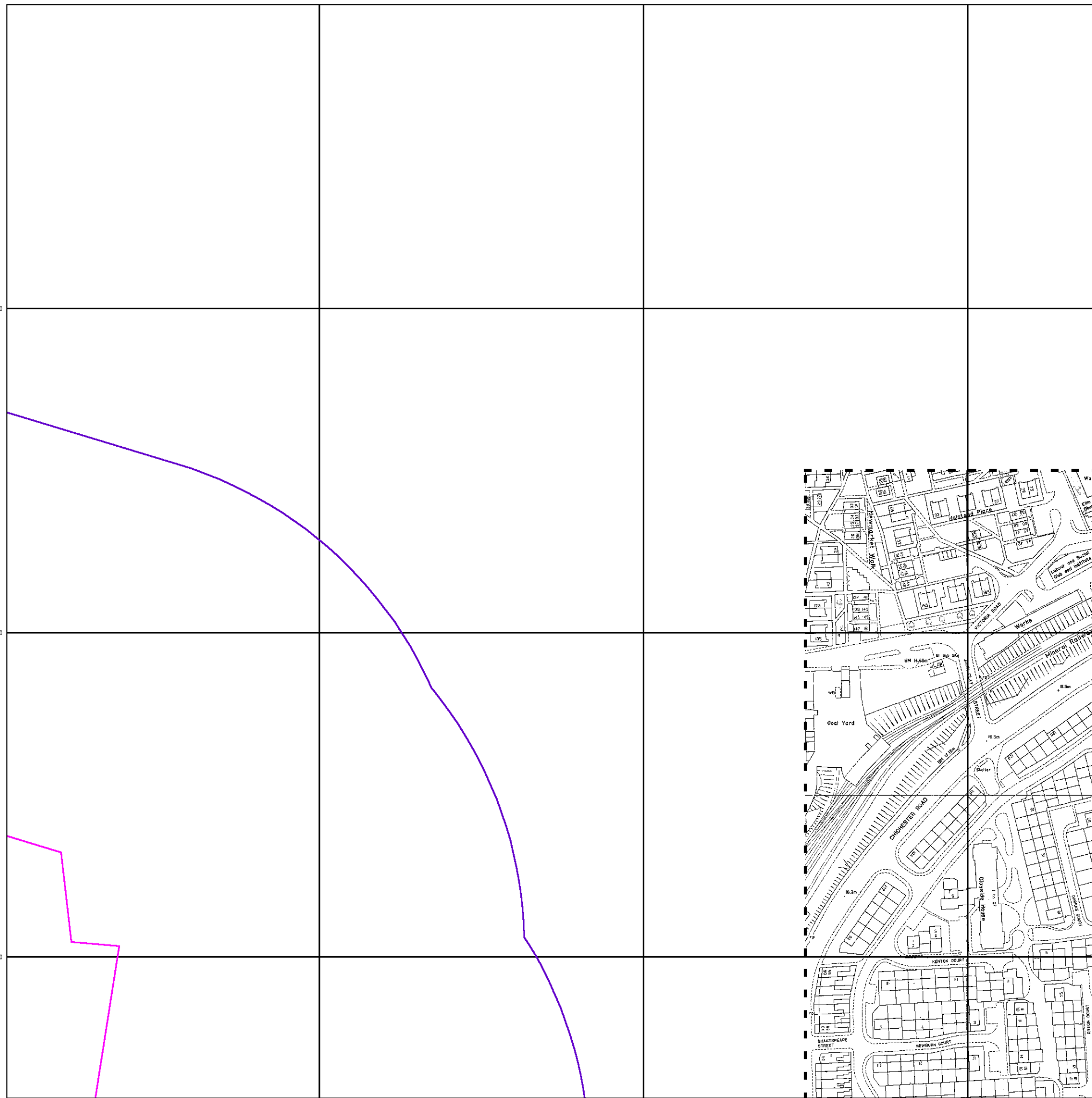
566600

566400

566400

566200

566200



436200

436400

436600



Large-Scale National Grid Data

Published 1993

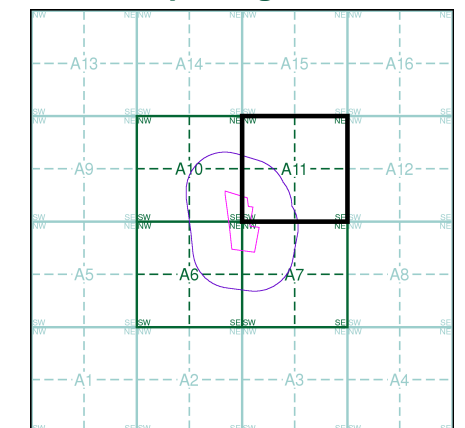
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

NZ3666NW 1993 1:1,250	NZ3666NE 1993 1:1,250
NZ3666SW 1993 1:1,250	NZ3666SE 1993 1:1,250

Historical Map - Segment A11



Order Details

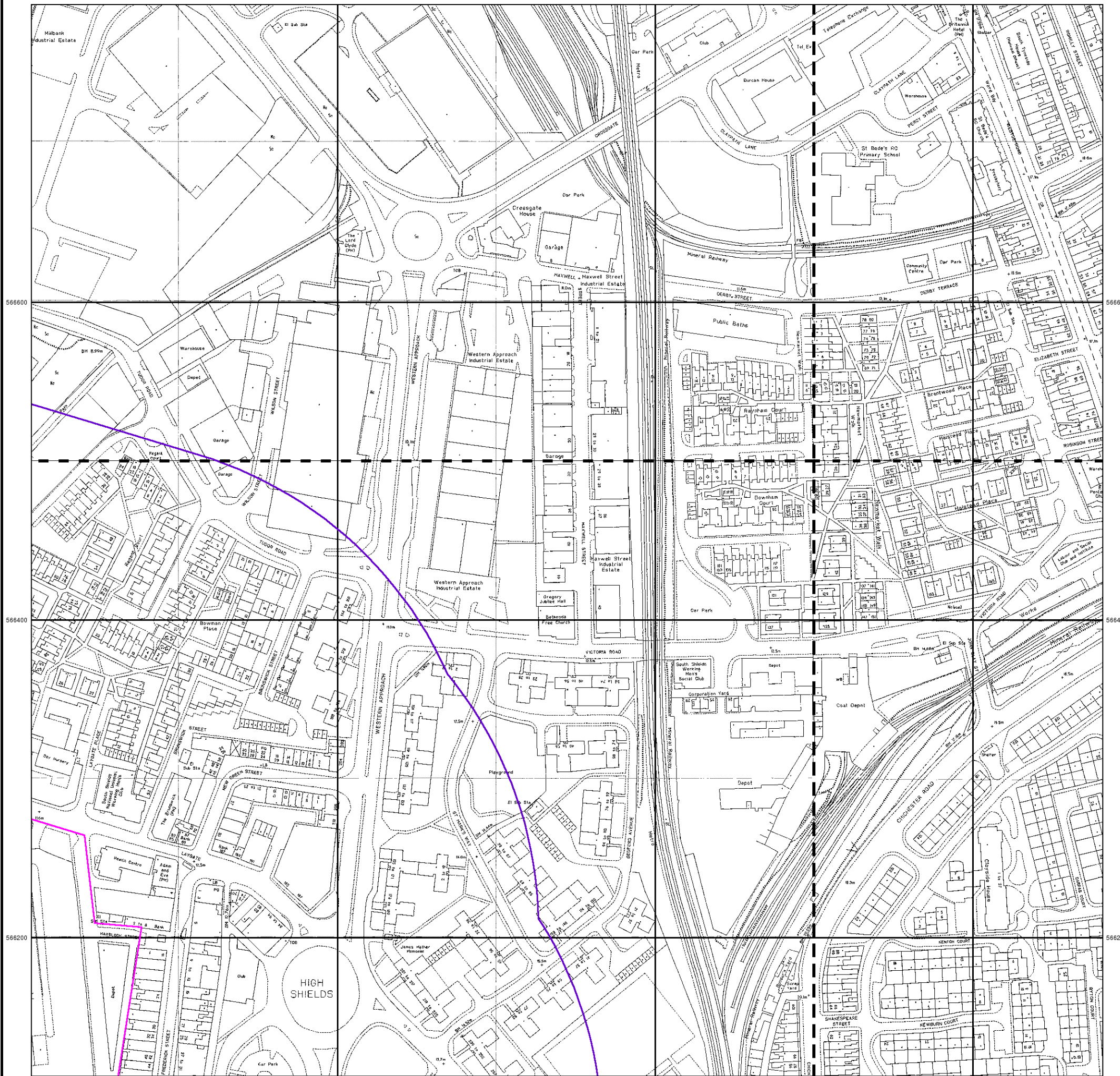
Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS,
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Large-Scale National Grid Data

Published 1994 - 1996

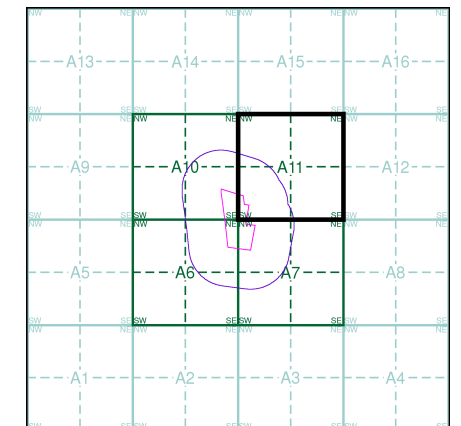
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

NZ3666NW 1995 1:1,250	NZ3666NE 1996 1:1,250
NZ3666SW 1994 1:1,250	NZ3666SE 1996 1:1,250

Historical Map - Segment A11

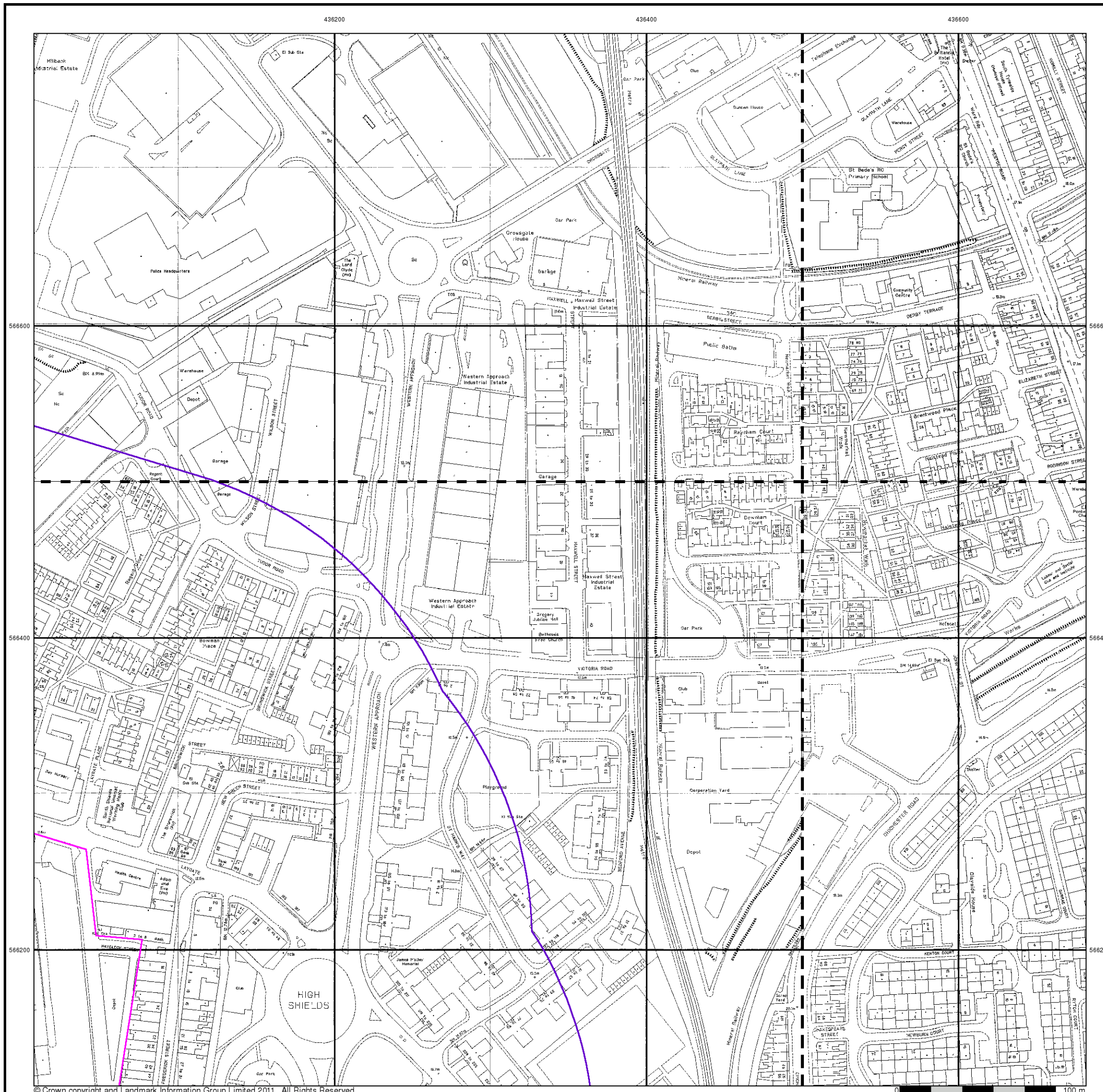


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



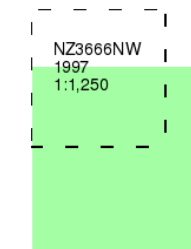
Large-Scale National Grid Data

Published 1997

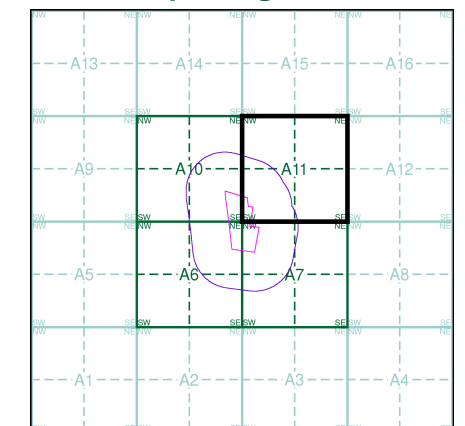
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A11



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Northumberland

Published 1857 - 1858

Source map scale - 1:528

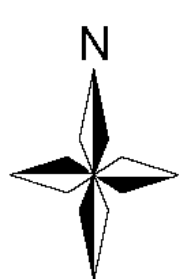
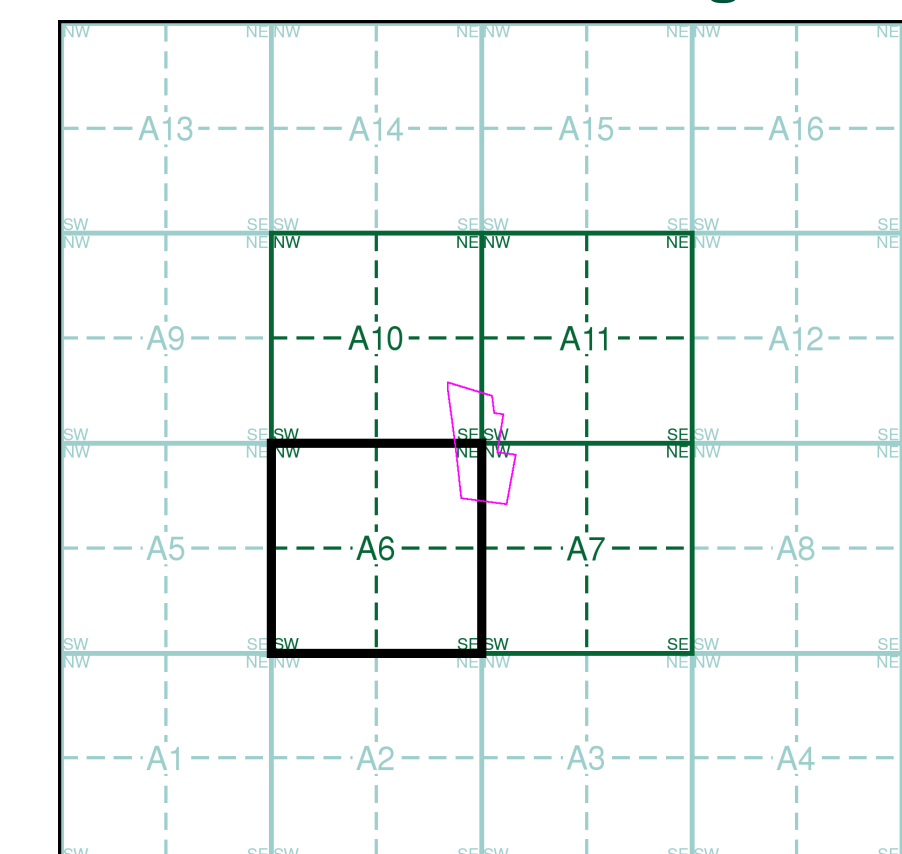
The 1:528 scale Ordnance Survey mapping was adopted in 1850 as an alternative to the 1:1056 scale, that had been deemed to be inadequate for sanitary planning, which had come very much to the fore following the passing of the Public Health Act of 1948. Around 29 towns in England and Wales were surveyed at this scale, the bulk of which were undertaken between 1850 and 1855. These were predominantly towns that were outside the areas being surveyed at 1:10,560 or 1:2500 scale. As well as showing the details characteristic of the later 1:500 plans, they show features of sanitary interest such as privies, taps, cow houses, cess pits, brew and bake houses and cart sheds and stables.

Please note: Due to the partial coverage of Historical Town Plans, it is possible that not all segments within an order will contain mapping. Only the segments that have Town Plan coverage will be generated.

Map Name(s) and Date(s)

000_00_044	000_00_045	000_00_046
1857	1857	1857
1:528	1:528	1:528
000_00_047	000_00_048	000_00_049
1857	1858	1857
1:528	1:528	1:528
000_00_050	000_00_051	
1857	1857	
1:528	1:528	

Historical Town Plan - Segment A6

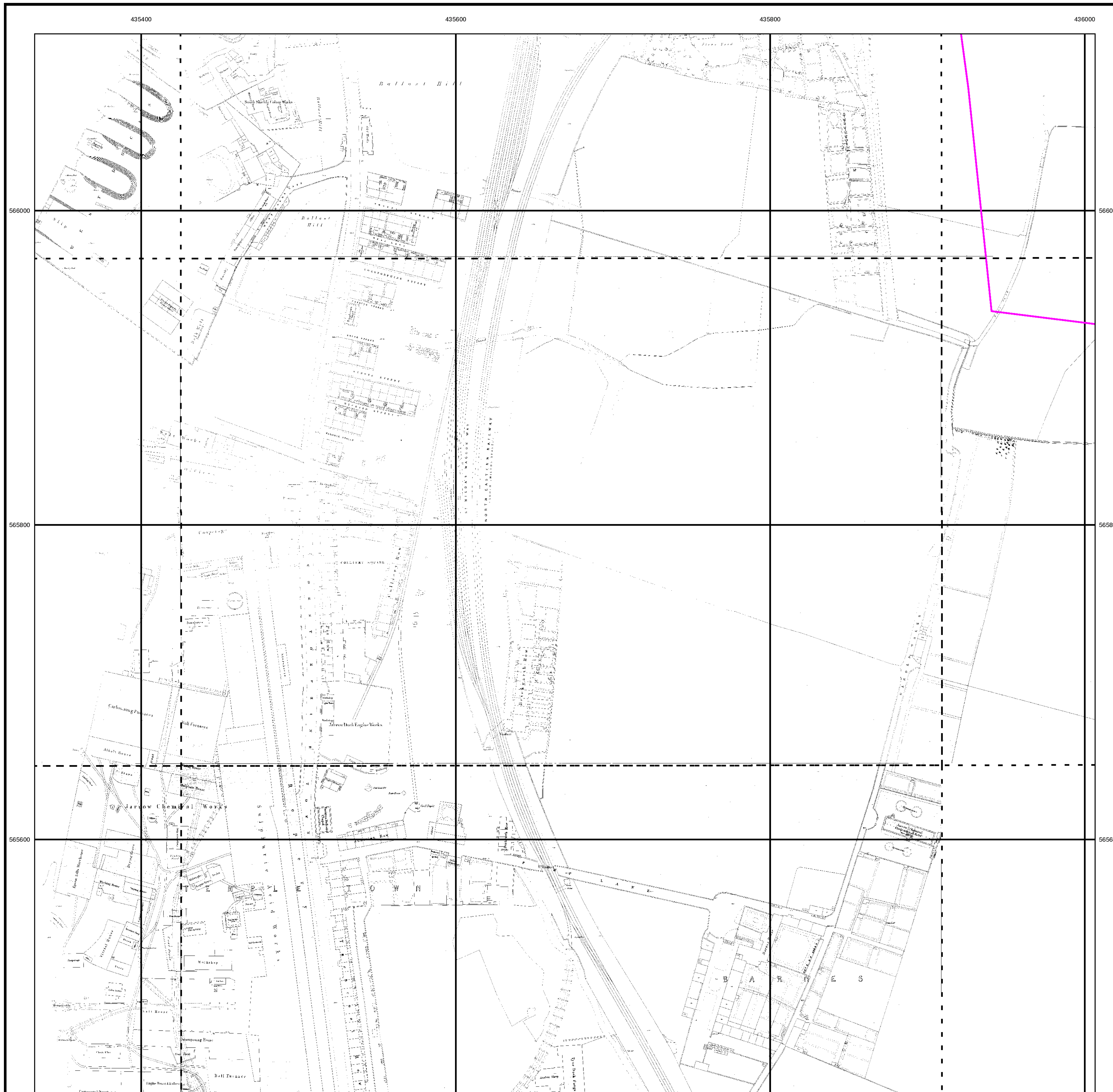


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 0

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Northumberland

Published 1896

Source map scale - 1:500

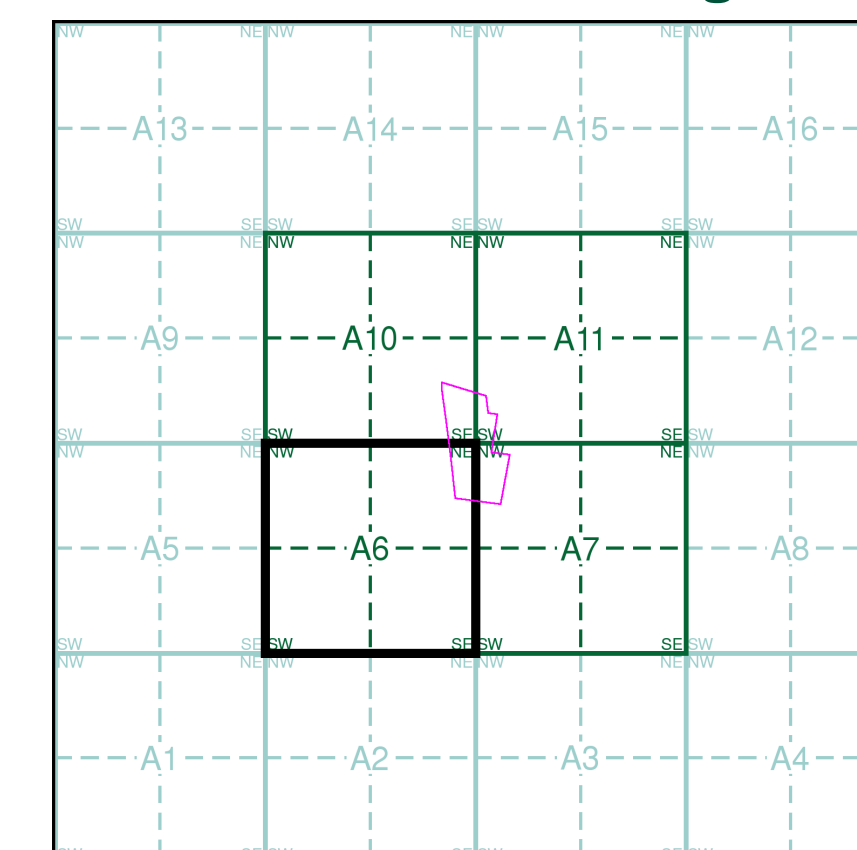
The 1:500 scale Ordnance Survey mapping was introduced in 1855 as a replacement for the 1:528 scale and to complement the 1:2500 scale that had been implemented in 1853. By 1895, the 1:500 scale covered most towns over a population of about 4000 at the time of survey, although very few towns were mapped more than once at this scale, and none have been since 1910. The 1:500 scale gives particular emphasis to such features as lamp posts, man holes, arched passages and minor building projections. Also often featured are divisions between tenements, interior ground floor layouts of public buildings, and on earlier plans, the functions of the various parts of larger industrial premises are also indicated. Content of the plans does vary however, from one town to the next in terms of, for example, the completeness of railway tracks and the coverage of public buildings.

Please note: Due to the partial coverage of Historical Town Plans, it is possible that not all segments within an order will contain mapping. Only the segments that have Town Plan coverage will be generated.

Map Name(s) and Date(s)

000_00_055	000_00_056
1896	1896
1:500	1:500
000_00_061	000_00_062
1896	1896
1:500	1:500
000_00_067	000_00_068
1896	1896
1:500	1:500

Historical Town Plan - Segment A6

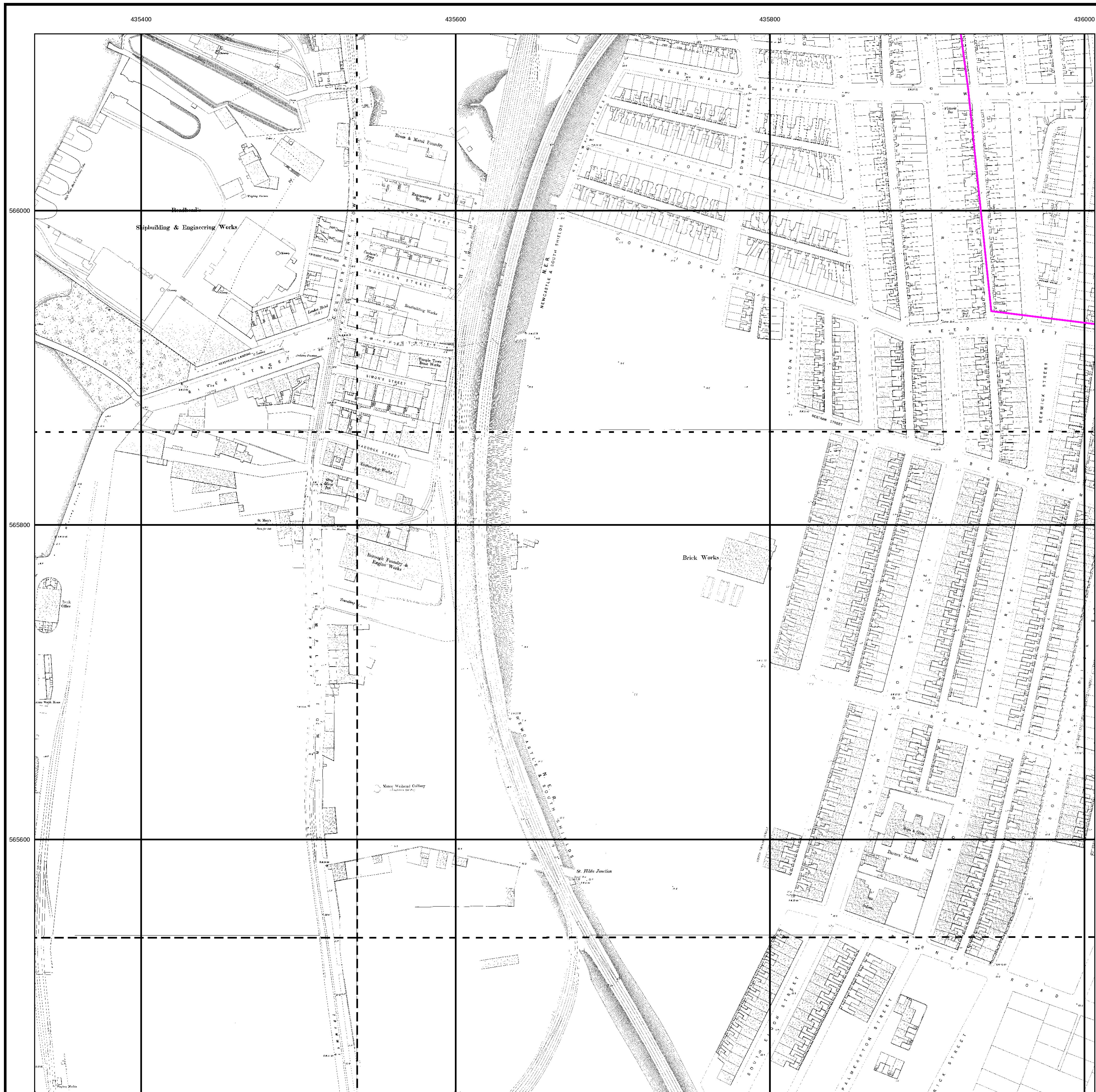


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 0

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Northumberland

Published 1857

Source map scale - 1:528

The 1:528 scale Ordnance Survey mapping was adopted in 1850 as an alternative to the 1:1056 scale, that had been deemed to be inadequate for sanitary planning, which had come very much to the fore following the passing of the Public Health Act of 1948. Around 29 towns in England and Wales were surveyed at this scale, the bulk of which were undertaken between 1850 and 1855. These were predominantly towns that were outside the areas being surveyed at 1:10,560 or 1:2500 scale. As well as showing the details characteristic of the later 1:500 plans, they show features of sanitary interest such as privies, taps, cow houses, cess pits, brew and bake houses and cart sheds and stables.

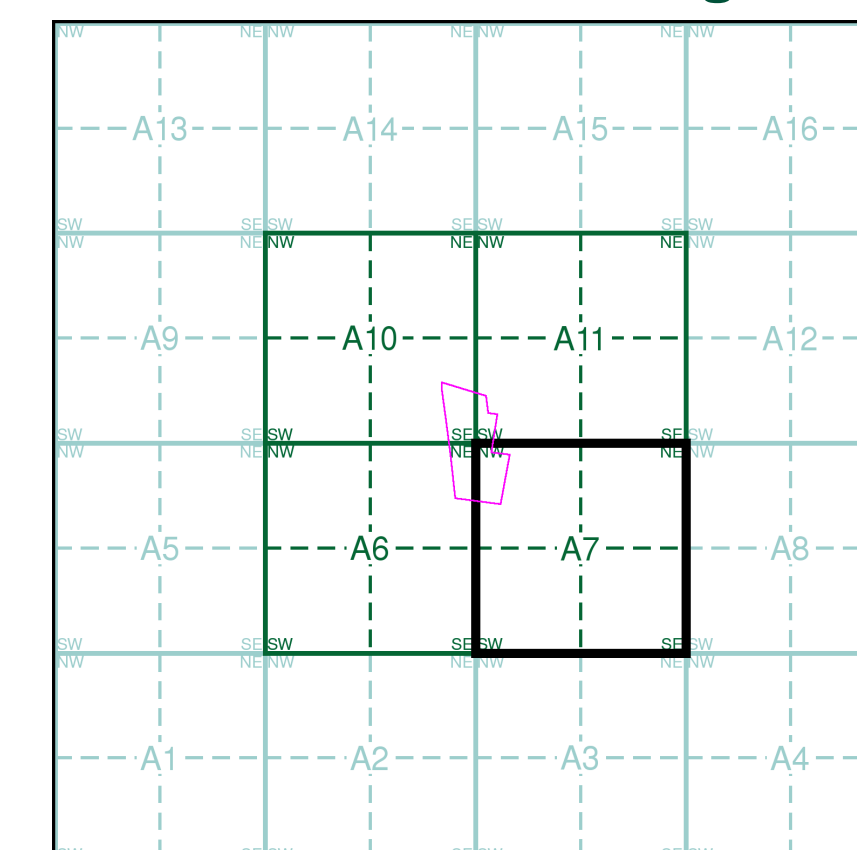
Please note: Due to the partial coverage of Historical Town Plans, it is possible that not all segments within an order will contain mapping. Only the segments that have Town Plan coverage will be generated.

Map Name(s) and Date(s)

000_00_046
1857
1:528

000_00_049
1857
1:528

Historical Town Plan - Segment A7

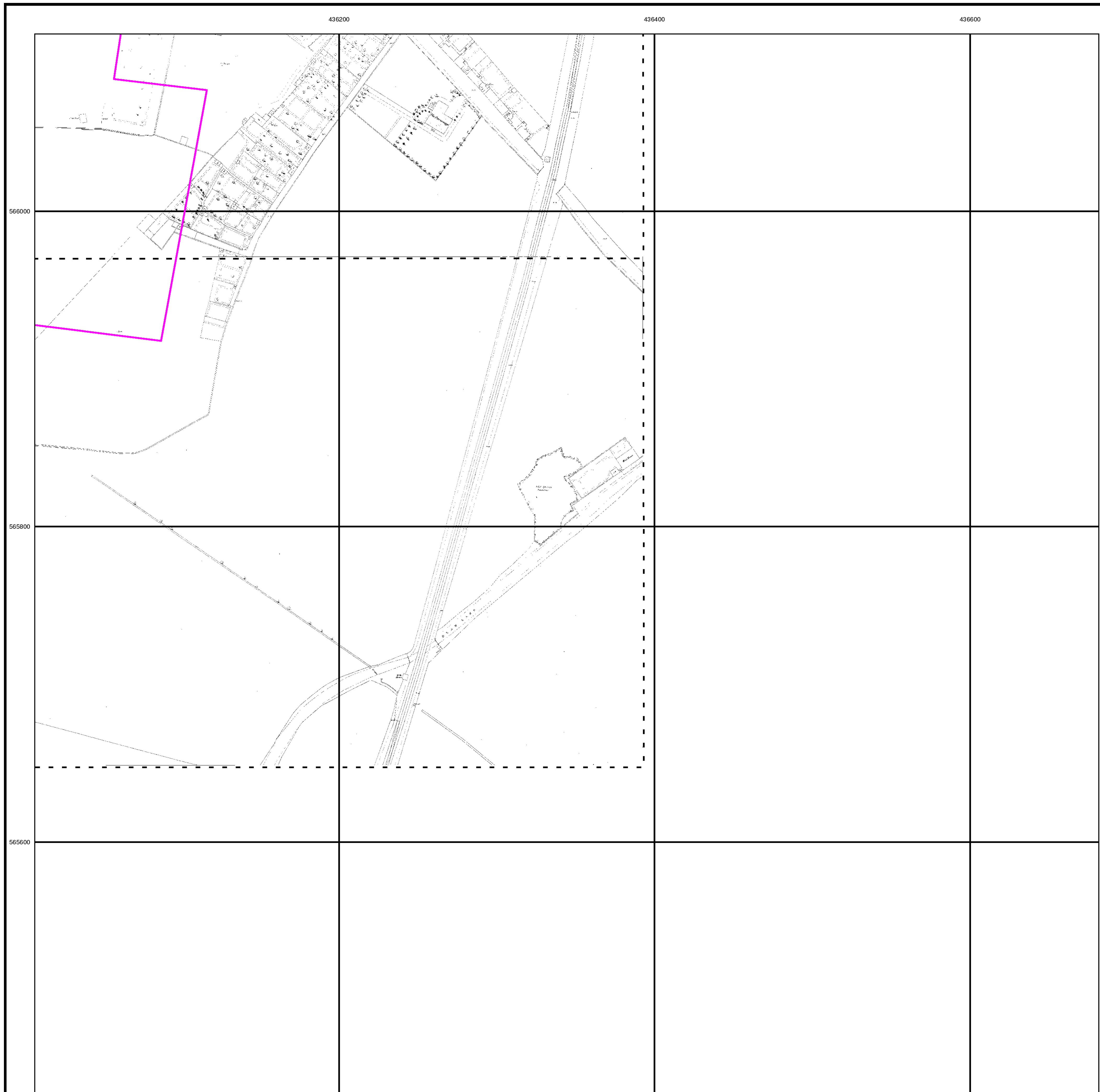


Order Details

Order Number: 35564740_1_1
Customer Ref: 1004469
National Grid Reference: 435990, 566110
Slice: A
Site Area (Ha): 5.6
Search Buffer (m): 0

Site Details

Residential Development, Trinity South, SOUTH SHIELDS,
Tyne and Wear



436200

436400

436600



Northumberland

Published 1896

Source map scale - 1:500

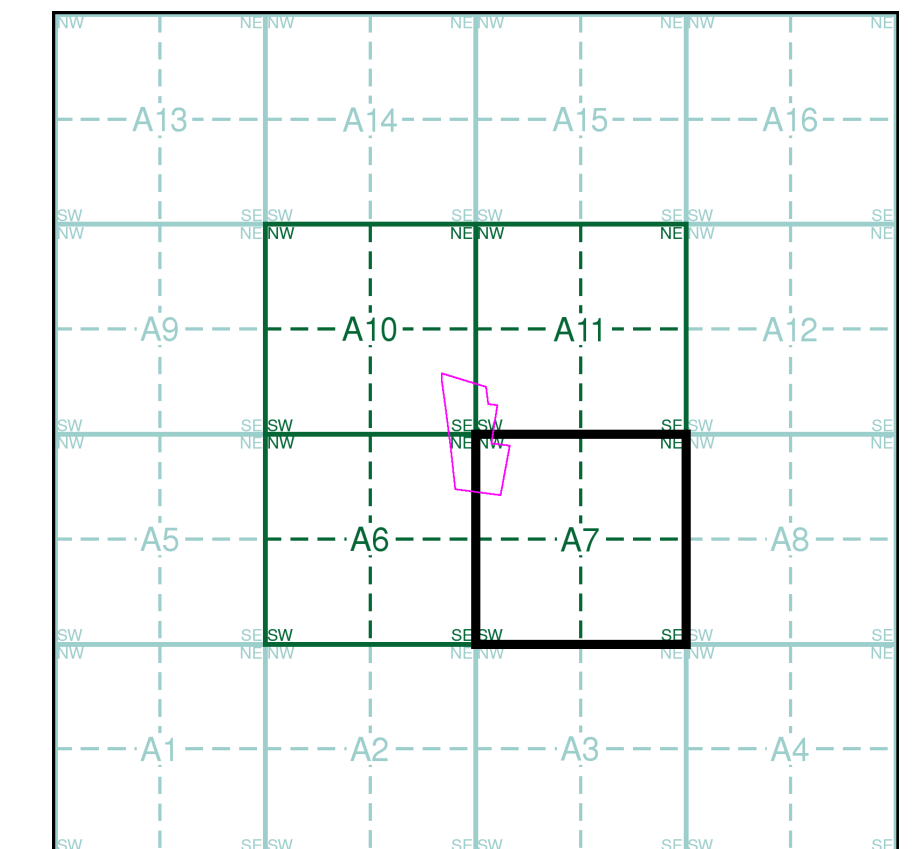
The 1:500 scale Ordnance Survey mapping was introduced in 1855 as a replacement for the 1:528 scale and to compliment the 1:2500 scale that had been implemented in 1853. By 1895, the 1:500 scale covered most towns over a population of about 4000 at the time of survey, although very few towns were mapped more than once at this scale, and none have been since 1910. The 1:500 scale gives particular emphasis to such features as lamp posts, man holes, arched passages and minor building projections. Also often featured are divisions between tenements, interior ground floor layouts of public buildings, and on earlier plans, the functions of the various parts of larger industrial premises are also indicated. Content of the plans does vary however, from one town to the next in terms of, for example, the completeness of railway tracks and the coverage of public buildings.

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Map Name(s) and Date(s)

000_00_056	000_00_057	000_00_058
1896	1896	1896
1:500	1:500	1:500
000_00_062	000_00_063	000_00_064
1896	1896	1896
1:500	1:500	1:500
000_00_068	000_00_069	
1896	1896	
1:500	1:500	

Historical Town Plan - Segment A7



Order Details

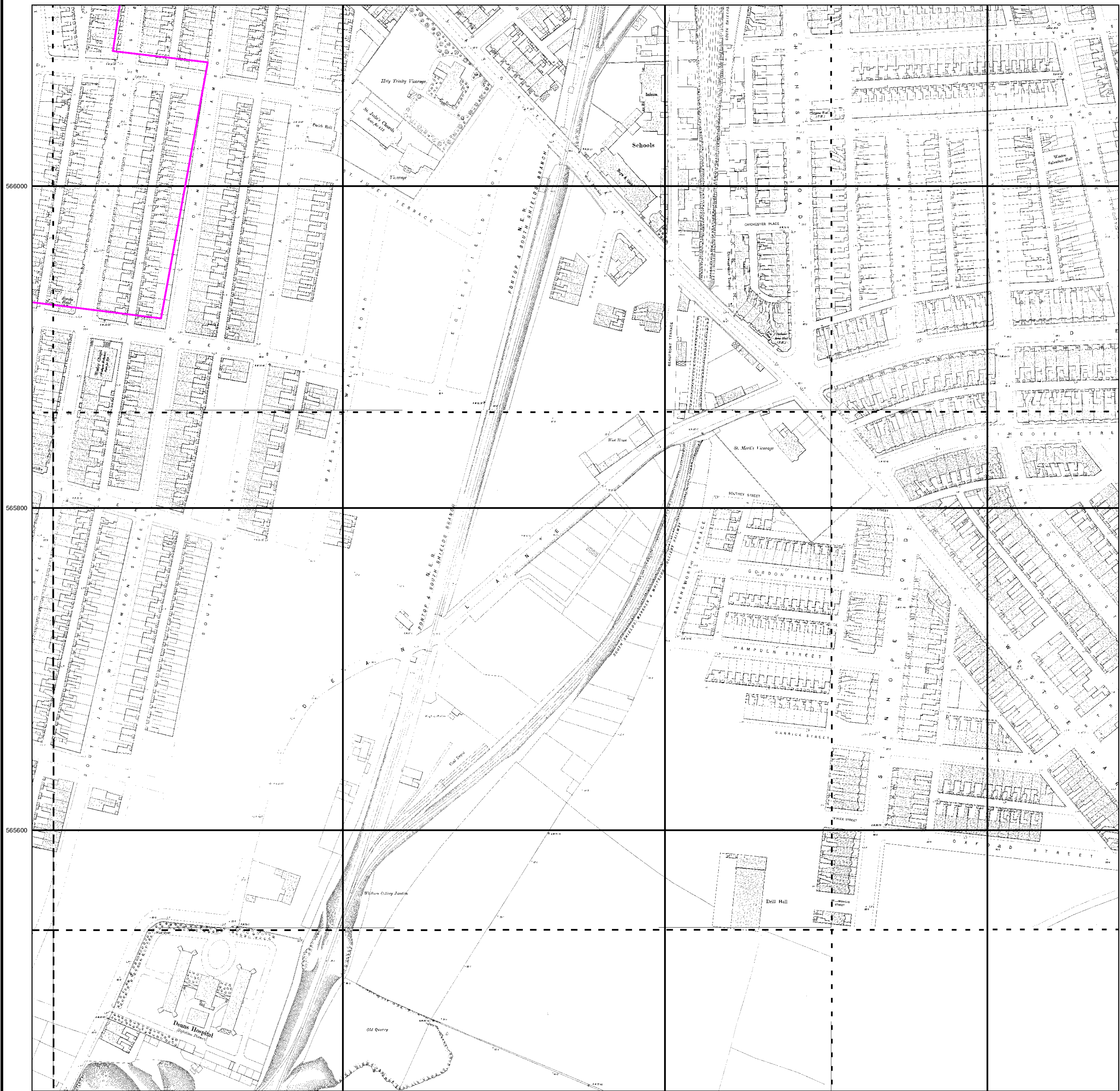
Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 0

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Tel: 0844 844 9952
 Fax: 0844 844 9951
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435400

435600

435800

436000



Northumberland

Published 1857 - 1860

Source map scale - 1:528

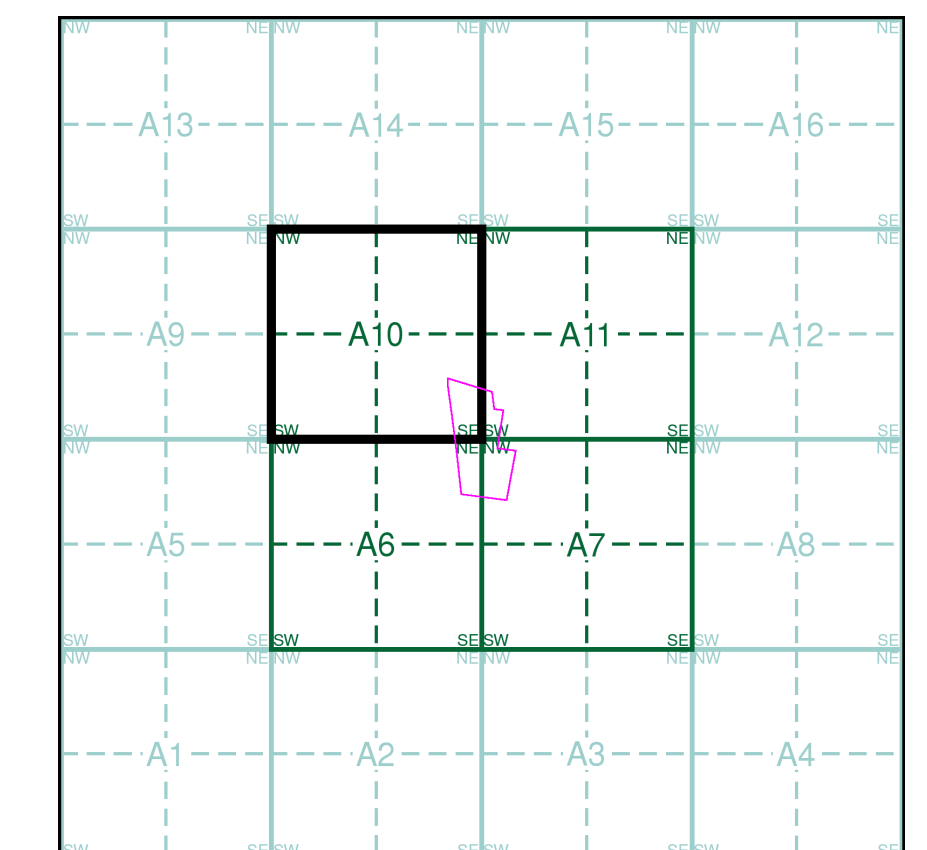
The 1:528 scale Ordnance Survey mapping was adopted in 1850 as an alternative to the 1:1056 scale, that had been deemed to be inadequate for sanitary planning, which had come very much to the fore following the passing of the Public Health Act of 1948. Around 29 towns in England and Wales were surveyed at this scale, the bulk of which were undertaken between 1850 and 1855. These were predominantly towns that were outside the areas being surveyed at 1:10,560 or 1:2500 scale. As well as showing the details characteristic of the later 1:500 plans, they show features of sanitary interest such as privies, taps, cow houses, cess pits, brew and bake houses and cart sheds and stables.

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Map Name(s) and Date(s)

000_00_037	000_00_038	000_00_039
1860	1858	1857
1:528	1:528	1:528
000_00_041	000_00_042	000_00_043
1860	1857	1857
1:528	1:528	1:528
000_00_044	000_00_045	000_00_046
1857	1857	1857
1:528	1:528	1:528

Historical Town Plan - Segment A10



Order Details

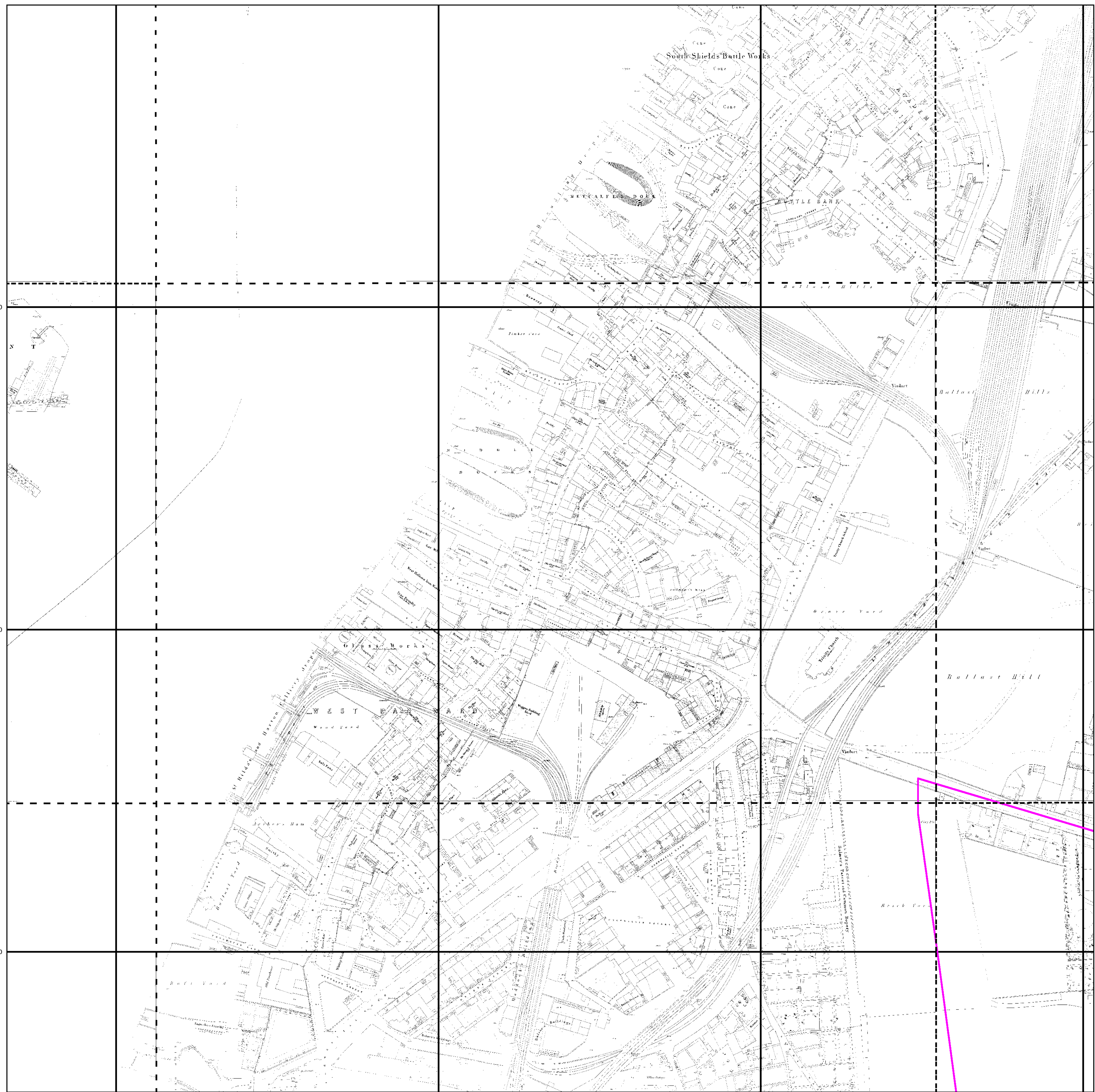
Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 0

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



435400

435600

435800

436000



Northumberland

Published 1896

Source map scale - 1:500

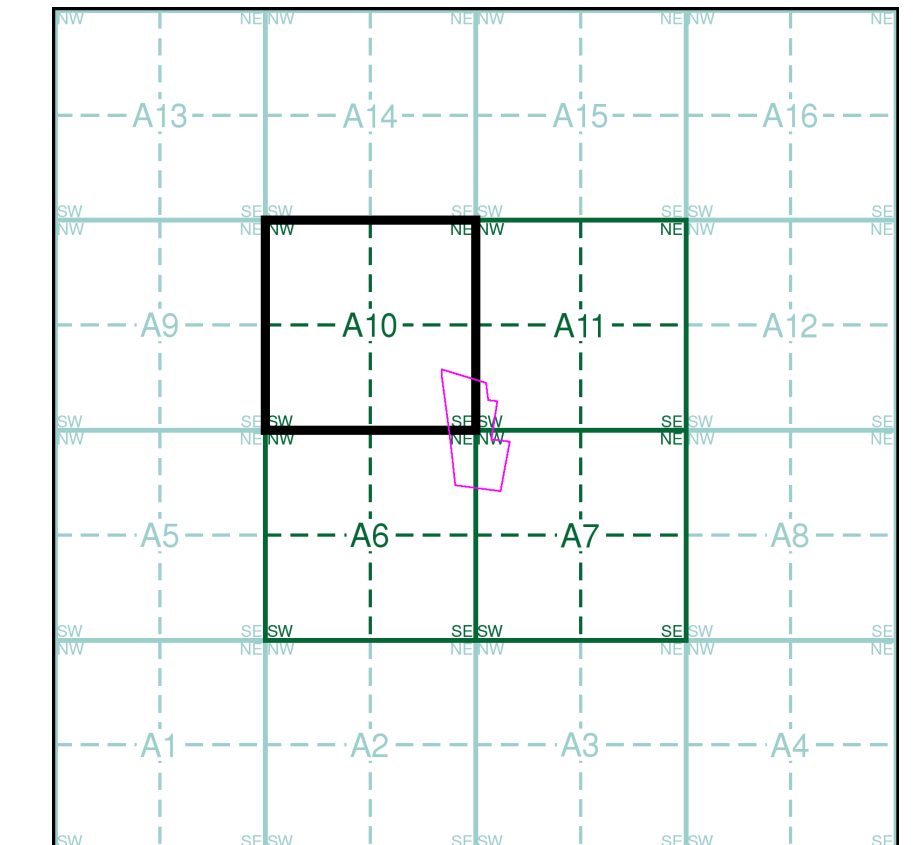
The 1:500 scale Ordnance Survey mapping was introduced in 1855 as a replacement for the 1:528 scale and to complement the 1:2500 scale that had been implemented in 1853. By 1895, the 1:500 scale covered most towns over a population of about 4000 at the time of survey, although very few towns were mapped more than once at this scale, and none have been since 1910. The 1:500 scale gives particular emphasis to such features as lamp posts, man holes, arched passages and minor building projections. Also often featured are divisions between tenements, interior ground floor layouts of public buildings, and on earlier plans, the functions of the various parts of larger industrial premises are also indicated. Content of the plans does vary however, from one town to the next in terms of, for example, the completeness of railway tracks and the coverage of public buildings.

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Map Name(s) and Date(s)

000_00_048	1896	1:500
000_00_051	1896	1:500
000_00_052	1896	1:500
000_00_055	1896	1:500
000_00_056	1896	1:500

Historical Town Plan - Segment A10



Order Details

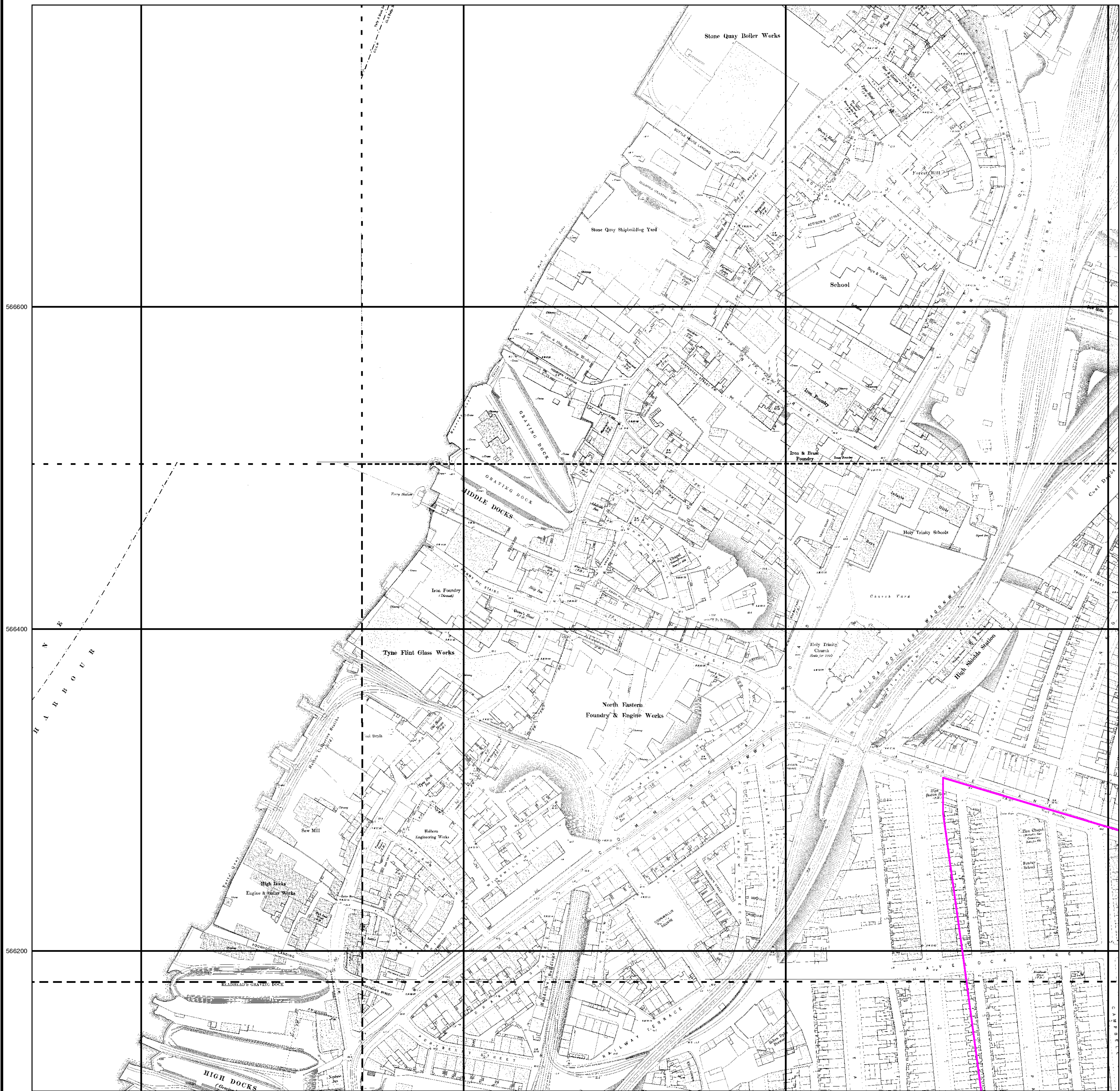
Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 0

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



436200

436400

436600



Northumberland

Published 1857

Source map scale - 1:528

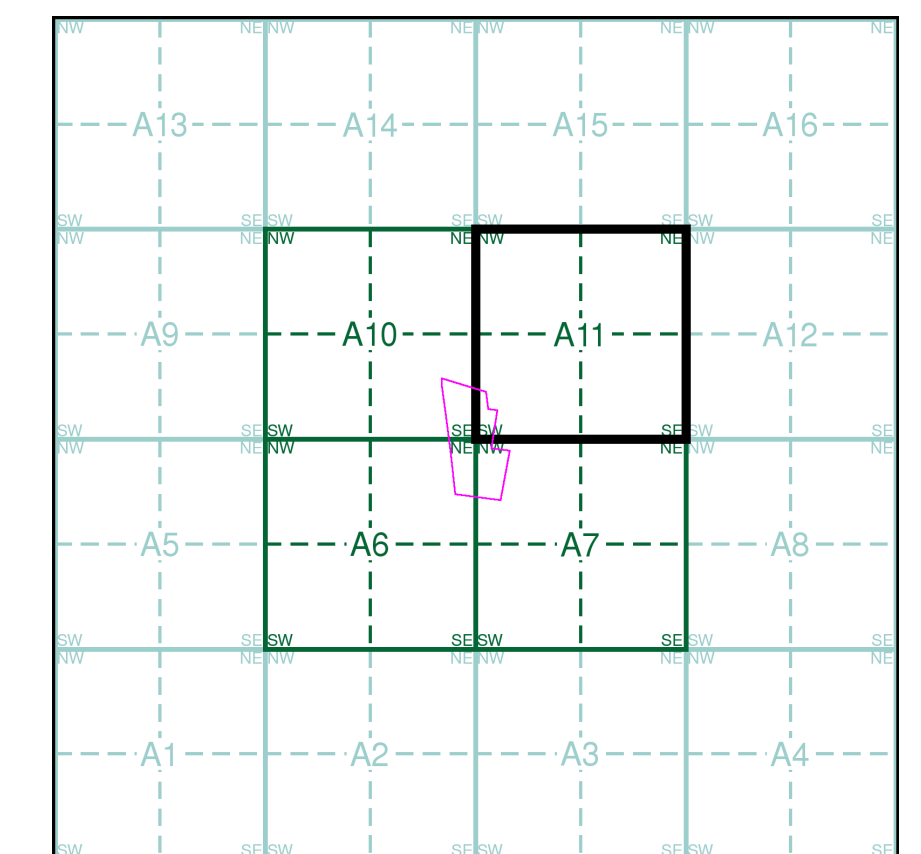
The 1:528 scale Ordnance Survey mapping was adopted in 1850 as an alternative to the 1:1056 scale, that had been deemed to be inadequate for sanitary planning, which had come very much to the fore following the passing of the Public Health Act of 1948. Around 29 towns in England and Wales were surveyed at this scale, the bulk of which were undertaken between 1850 and 1855. These were predominantly towns that were outside the areas being surveyed at 1:10,560 or 1:2500 scale. As well as showing the details characteristic of the later 1:500 plans, they show features of sanitary interest such as privies, taps, cow houses, cess pits, brew and bake houses and cart sheds and stables.

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Map Name(s) and Date(s)

000_00_039	000_00_040
1857	1857
1:528	1:528
000_00_043	
1857	
1:528	
000_00_046	
1857	
1:528	

Historical Town Plan - Segment A11



Order Details

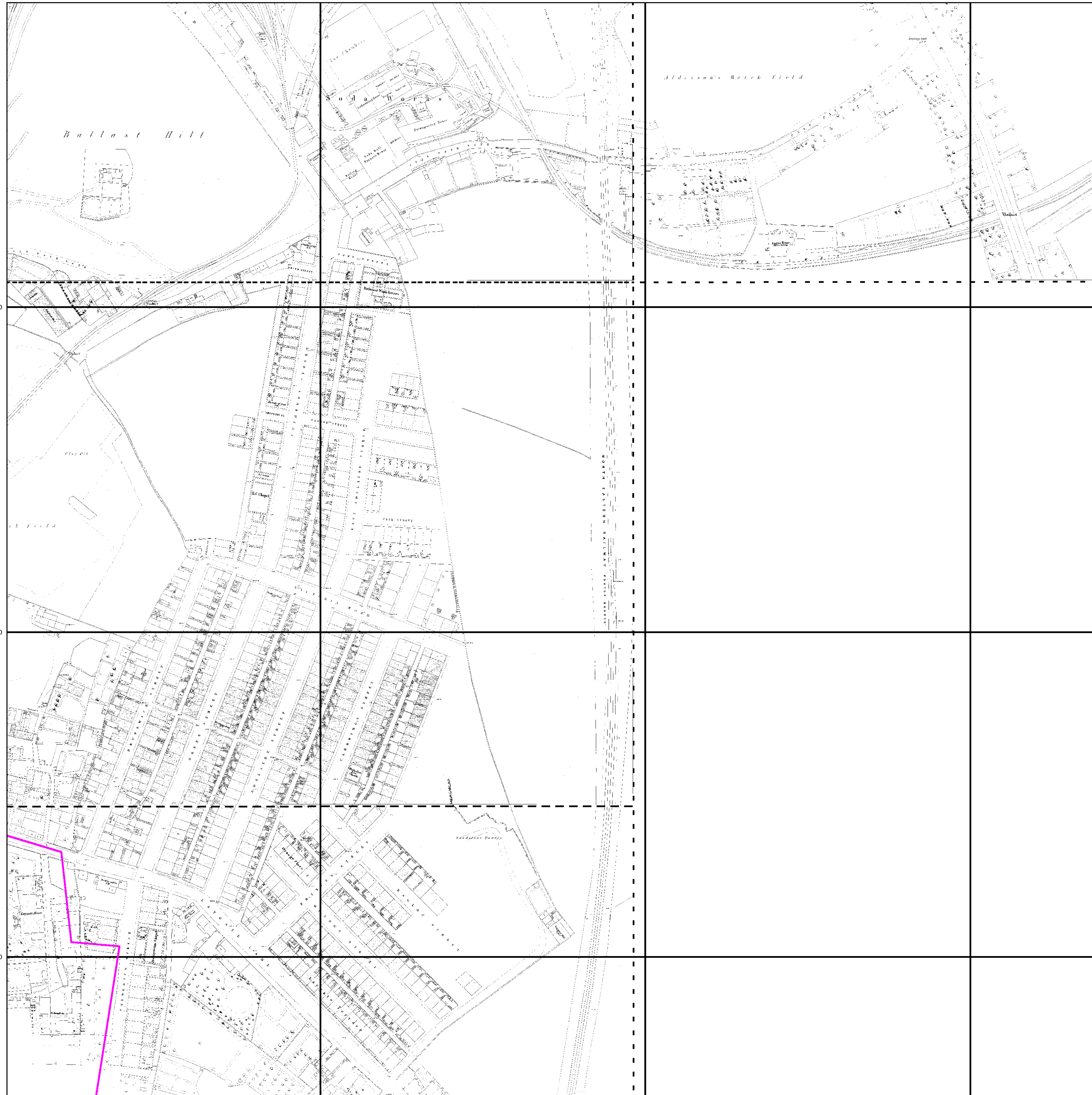
Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 0

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



436200

436400

436600



Northumberland

Published 1896

Source map scale - 1:500

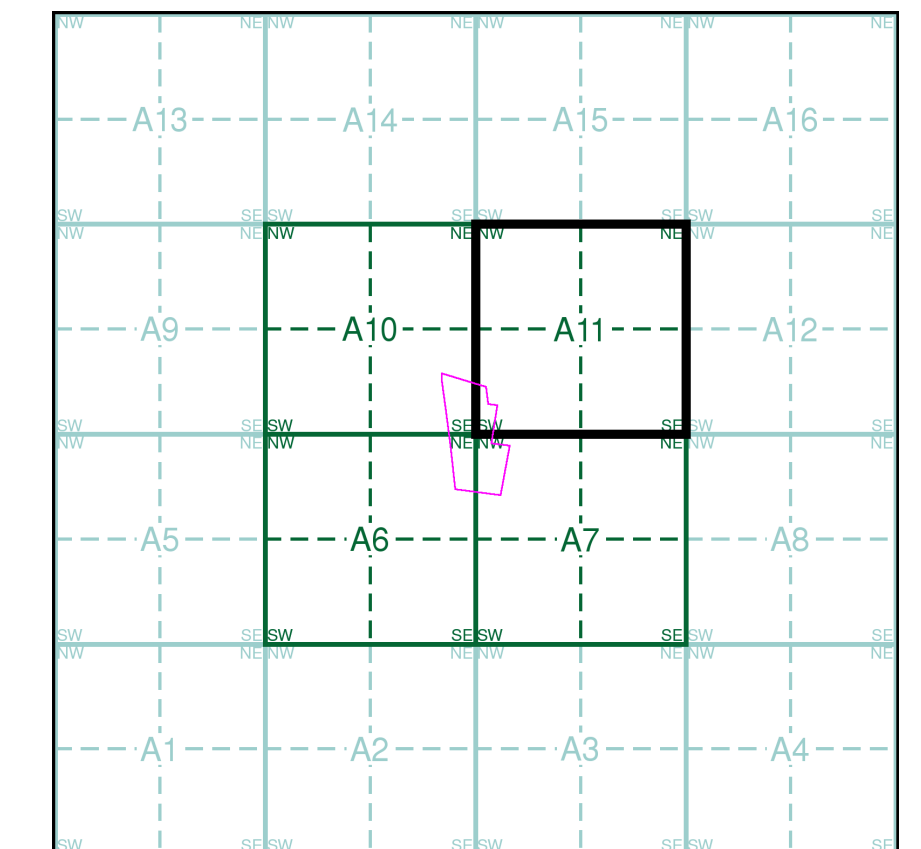
The 1:500 scale Ordnance Survey mapping was introduced in 1855 as a replacement for the 1:528 scale and to complement the 1:2500 scale that had been implemented in 1853. By 1895, the 1:500 scale covered most towns over a population of about 4000 at the time of survey, although very few towns were mapped more than once at this scale, and none have been since 1910. The 1:500 scale gives particular emphasis to such features as lamp posts, man holes, arched passages and minor building projections. Also often featured are divisions between tenements, interior ground floor layouts of public buildings, and on earlier plans, the functions of the various parts of larger industrial premises are also indicated. Content of the plans does vary however, from one town to the next in terms of, for example, the completeness of railway tracks and the coverage of public buildings.

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Map Name(s) and Date(s)

000_00_048	000_00_049	000_00_050
1896	1896	1896
1:500	1:500	1:500
000_00_052	000_00_053	000_00_054
1896	1896	1896
1:500	1:500	1:500
000_00_056	000_00_057	000_00_058
1896	1896	1896
1:500	1:500	1:500

Historical Town Plan - Segment A11



Order Details

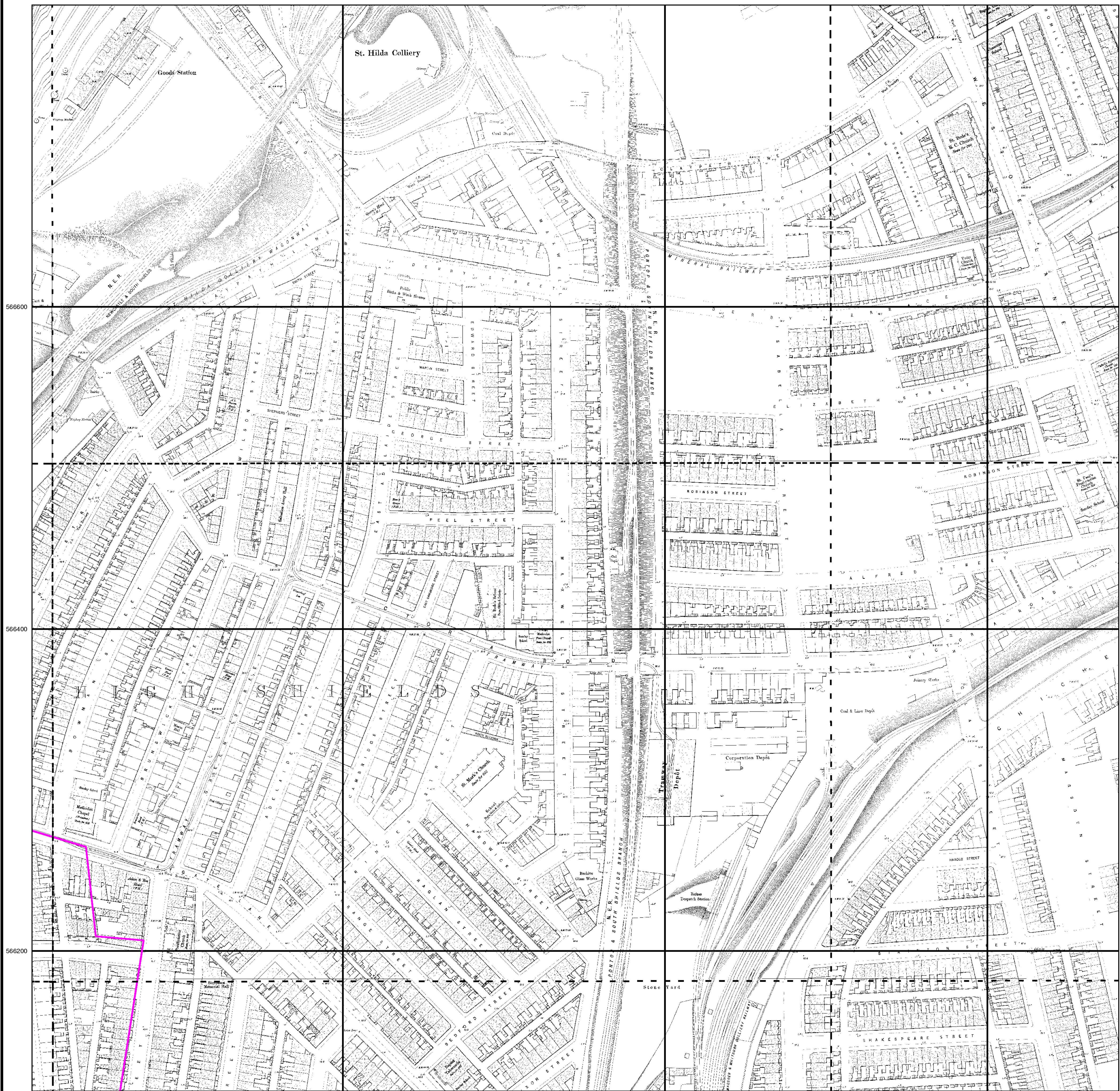
Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 0

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Tel: 0844 844 9952
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Index Map

For ease of identification, your site and buffer have been split into Slices, Segments and Quadrants. These are illustrated on the Index Map opposite and explained further below.

Slice

Each slice represents a 1:10,000 plot area (2.7km x 2.7km) for your site and buffer. A large site and buffer may be made up of several slices (represented by a red outline), that are referenced by letters of the alphabet, starting from the bottom left corner of the slice "grid". This grid does not relate to National Grid lines but is designed to give best fit over the site and buffer.

Segment

A segment represents a 1:2,500 plot area. Segments that have plot files associated with them are shown in dark green, others in light blue. These are numbered from the bottom left hand corner within each slice.

Quadrant

A quadrant is a quarter of a segment. These are labelled as NW, NE, SW, SE and are referenced in the datasheet to allow features to be quickly located on plots. Therefore a feature that has a quadrant reference of A7NW will be in Slice A, Segment 7 and the NW Quadrant.

A selection of organisations who provide data within this report:



Envirocheck reports are compiled from 136 different sources of data.

Client Details

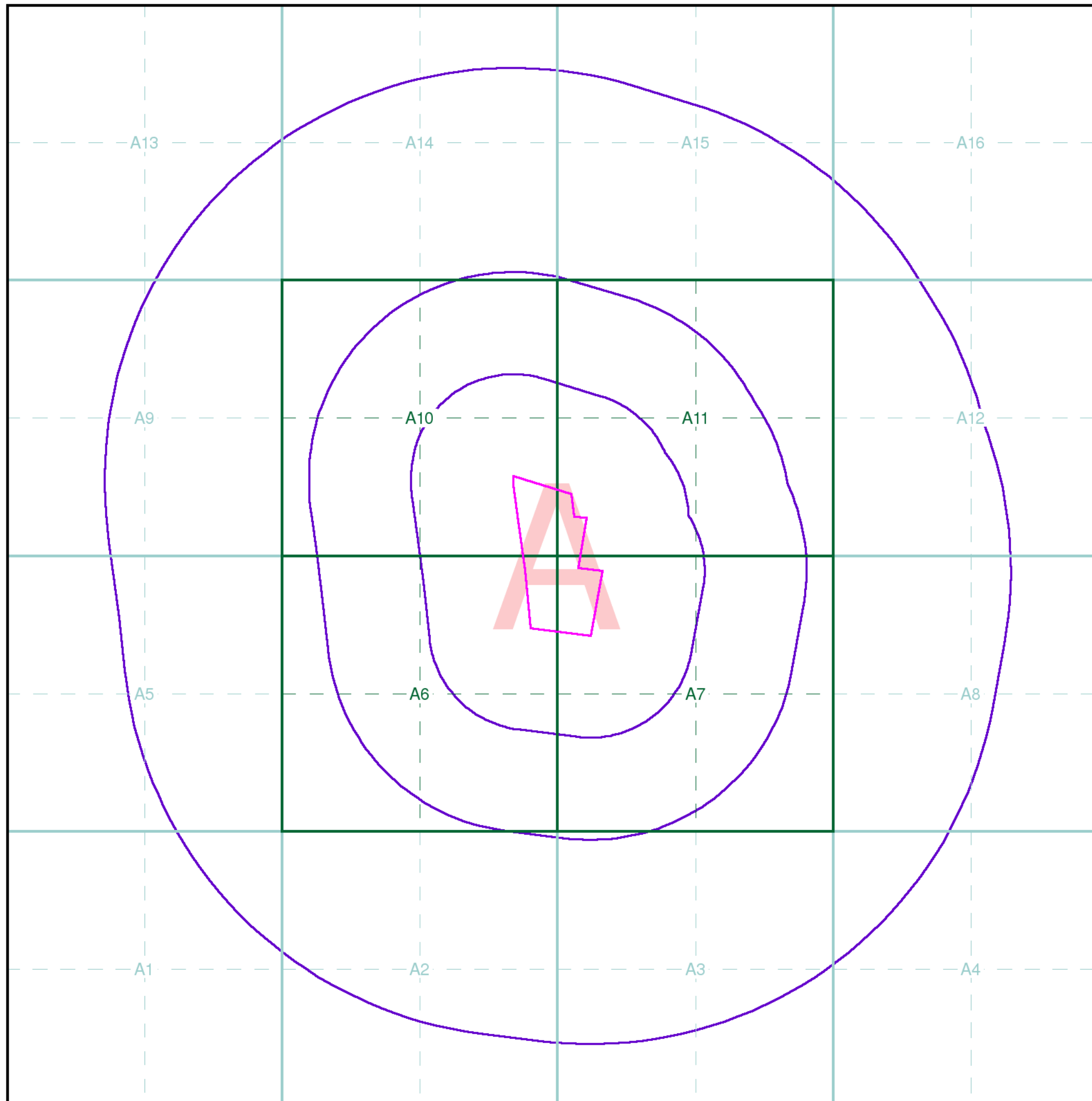
Mr M Anderson, Cundall, Horsley House, Regent Centre, Gosforth, Newcastle Upon Tyne, NE3 3LU

Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 436000, 566100
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



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"First Purchaser's Lender" means the funding provider for the First Purchaser

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d. Landmark may modify these Terms, and may discontinue or revise any or all other aspects of the Services at our sole discretion, with immediate effect and without prior notice, including without limitation changing the Services available at any given time. Any amendment or variation to these Terms shall be posted on our Websites. Continued use of the Services by You shall be deemed an acceptance by You to be bound by any such amendments to the Terms.

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f. These Terms shall prevail at all times to the exclusion of all other terms and conditions including any terms and conditions which You may purport to apply even if such other provisions are submitted in a later document or purport to exclude or override these Terms and neither the course of conduct between parties nor trade practice shall act to modify these Terms.

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a. Landmark will use reasonable care and skill in providing the Services to You, however, the Services are provided on the express basis that the information and data supplied in the Services are derived from third party sources and Landmark does not warrant the accuracy or completeness of such information or data. Such information is derived solely from those sources specifically cited in the Services and Landmark does not

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a. You acknowledge that all Intellectual Property Rights in the Services are and shall remain owned by either Landmark or our Suppliers and nothing in these Terms purports to transfer, assign or grant any rights to You in respect of the Intellectual Property Rights.

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i. the owner of the Property at the date of the Report,

ii. any person who purchases the whole of the Property Site,

iii. any person who provides funding secured on the whole of the Property Site,

iv. any person for whom You act in a professional or commercial capacity,

v. any person who acts for You in a professional or commercial capacity; and

vi. prospective buyers of the Property Site as part of an Information Pack but for the avoidance of doubt, Landmark shall have no liability to such prospective buyer unless the prospective buyer subsequently purchases the Property Site, and the prospective (or actual) buyer shall not be entitled to make the Service available to any other third party.

Accordingly Landmark shall have the same duties and obligations to those persons in respect of the Services as it has to You.

c. Each of those persons referred to in clause 3.b. shall have the benefit and the burden of Your rights and obligations under these Terms. The limitations of Landmark's liability as set out in clause 6 shall apply to all users of the Service in question in aggregate and Landmark shall not be liable to any other person.

d. All parties given access to the Services agree that they will treat as strictly private and confidential the Services and all information which they obtain from the Services and shall restrict any disclosure to employees or professional advisors to enable the relevant party to conduct its internal business. The requirement in this clause to treat the Services as confidential shall include a requirement to maintain adequate security measures to safeguard the Services from unauthorised access, use or copying.

e. Each recipient of the Services agrees (and agrees it will cause its employees, agents or contractors who may from time to time have access to the Services to agree) it will not, except as permitted herein or by separate agreement with Landmark:-

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iii. remove, alter or in any way change any trademark or proprietary marking in any element of the Services and You shall acknowledge the ownership of the Content, where such Content is incorporated or used into Your own documents, reports, systems or services whether or not these are supplied to any third party.

iv. create any product which is derived directly or indirectly from the data contained in the Services

f. The mapping contained in any Services is protected by Crown Copyright and must not be used for any purpose outside the context of the Services or as specifically provided by these Terms.

g. You are permitted to make five copies of any Report, but are not authorised to re-sell the Report, any part thereof or any copy thereof unless you are an Authorised Reseller. Further copies may not be made in whole or in part without the prior written permission of Landmark who shall be entitled to make a charge for each additional copy.

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b. An individual or a monthly invoice showing all Orders created by You will be generated subject to these Terms. You will pay the Landmark Fees at the rates set out in Landmark's or its Authorised Reseller's invoice. The Landmark Fees are payable in full within 30 days without deduction, counterclaim or set off. You acknowledge that time is of the essence with respect to the payment of such invoices. Landmark reserve the right to amend the Landmark Fees from time to time and the Services will be charged at the Landmark Fee applicable at the date on which the Service is ordered.

c. We may charge interest on late payment at a rate equal to 3% per annum above the base lending rate of National Westminster Bank plc.

d. Landmark or its Authorised Reseller shall not be obliged to invoice any party other than You for the provision of Services, but where Landmark or its Authorised Reseller does so invoice any third party at Your request, and such invoice is not accepted or remains unpaid, Landmark or its Authorised Reseller shall have the option at any time to cancel such invoice and invoice You direct for such Services. Where Your order comprises a number of

Services or severable elements within any one or more Services, any failure by Landmark or its Authorised Reseller to provide an element or elements of the Services shall not prejudice Landmark's or its Authorised Reseller's ability to require payment in respect of the Services delivered to You.

5. Termination

a. Landmark may suspend or terminate Your rights under these Terms without any liability to You with immediate effect if at any time:-

i. You fail to make any payment due in accordance with clause 4;

ii. You repeatedly breach or commit or cause to be committed any material breach of these Terms; or

iii. You commit a breach and You fail to remedy the breach within 7 days of receipt of a written notice to do so; additionally, without prejudice to the foregoing, Landmark may remedy the breach and recover the costs thereof from You.

b. If Your rights are terminated under this clause and You have made an advance payment We will refund You a reasonable proportion of the balance as determined by Us in relation to the value of Services previously purchased.

c. Landmark reserves the right to refuse to supply any or all Services to You without notice or reason.

6. Liability

a. We provide warranties and accept liability only to the extent stated in this clause 6 and clause 7.

b. Nothing in these Terms excludes either party's liability for death or personal injury caused by that party's negligence or wilful default, and the remainder of this clause 6 is subject to this provision and Your statutory rights.

c. As most of the information contained in the Services is provided to Landmark by others, Landmark cannot control its accuracy or completeness, nor is it within the scope of Landmark's Services to check the information on the ground. Accordingly, Landmark will only be liable to You for any loss or damage caused by its negligence or willful default and subject to clause 6.o below neither Landmark nor any person providing information contained in any Services shall in any circumstances be liable for any inaccuracies, faults or omissions in the Services, nor shall Landmark have any liability if the Services are used otherwise than in accordance with these Terms.

d. Save as precluded by law, Landmark shall not be liable for any indirect or consequential loss, damage or expenses (including loss of profits, loss of contracts, business or goodwill) howsoever arising out of any problem, event, action or default by Landmark.

e. In any event, and notwithstanding anything contained in these Terms, Landmark's liability in contract, tort (including negligence or breach of statutory duty) or otherwise howsoever arising by reason of or in connection with this Contract (except in relation to death or personal injury) shall be limited to an aggregate amount not exceeding £1 million if the complaint is in relation to a Report on residential property and an aggregate amount not exceeding £10 million in respect of any other Report or Service purchased from Landmark.

f. Landmark will not be liable for any defect, failure or omission relating to Services that is not notified to Landmark within six months of the date of the issue becoming apparent and in any event, within twelve years of the date of the Service.

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i. Subject to clause 6.o below You shall have no claim or recourse against any Third Party Content supplier nor any of our other Suppliers. You will not in any way hold us responsible for any selection or retention of, or the acts of omissions of Third Party Content suppliers or other Suppliers (including those with whom We have contracted to operate various aspects or parts of the Service) in connection with the Services (for the avoidance of doubt Landmark is not a Third Party Content supplier). Landmark does not promise that the supply of the Services will be uninterrupted or error free or provide any particular facilities or functions, or that the Content will always be complete, accurate, precise, free from defects of any other kind, computer viruses, software locks or other similar code although Landmark will use reasonable efforts to correct any inaccuracies within a reasonable period of them becoming known to us;

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iii. no physical inspection of the Property Site reported on is carried out as part of any Services offered by Landmark and Landmark do not warrant that all land uses or features whether past or current will be identified in the Services. The Services do not include any information relating to the actual state or condition of any Property Site nor should they be used or taken to indicate or exclude actual fitness or unfitness of a Property Site for any particular purpose nor should it be relied upon for determining saleability or value or used as a substitute for any physical investigation or inspection. Landmark recommends that You inspect and take other advice in relation to the Property Site and not rely exclusively on the Services.

iv. Subject to clause 6.o below, Landmark shall not be

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v. Landmark will not be held liable in any way if a Report on residential property is used for commercial property or more than the one residential property for which it was ordered.

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vii. Landmark offer no warranty for the performance of any linked internet service not operated by Landmark;

viii. You will on using the Services make a reasonable inspection of any results to satisfy Yourself that there are no defects or failures. In the event that there is a material defect You will notify us in writing of such defect within seven days of its discovery;

ix. Any support or assistance provided to You in connection with these Terms is at Your risk;

h. All liability for any insurance products purchased by You rests solely with the insurer. Landmark does not endorse any particular product or insurer and no information contained within the Services should be deemed to imply otherwise. You acknowledge that if You Order any such insurance Landmark will deem such as Your consent to forward a copy of the Report to the insurers. Where such policy is purchased, all liability remains with the insurers and You are entirely responsible for ensuring that the insurance policy offered is suitable for Your needs and should seek independent advice. Landmark does not guarantee that an insurance policy will be available on a Property Site. All decisions with regard to the offer of insurance policies for any premises will be made solely at the discretion of the insurers and Landmark accepts no liability in this regard. The provision of a Report does not constitute any indication by Landmark that insurance will be available on the property.

i. Professional opinions contained in Reports are provided to Landmark by third parties, and such third parties are solely liable for the opinion provided. For the avoidance of doubt, those parties providing assessments or professional opinions on Landmark products include RPS Plc & Wilbourn Associates Limited, and any issues with regard to the provision of such opinion should be taken up with the relevant third party.

If Landmark provides You with any additional service obtained from a third party, including but not limited to any interpretation or conclusion, risk assessment or environmental report or search carried out in relation to a Report on Your Property Site, subject to clause 6.o below Landmark will not be liable in any way for any information contained therein or any issues arising out of the provision of those additional services to You. Landmark will be deemed to have acted as an agent in these circumstances and the supply of these additional services will be governed by the terms and conditions of those Third Parties.

j. In any event no person may rely on a Service more than 12 months after its original date.

k. If You wish to vary any limitation of liability as set out in these Terms, You must request such variation prior to ordering the Service. Landmark shall use its reasonable endeavours to agree such variation but shall not be obliged to do so.

l. Time shall not be of the essence with respect to the provision of the Services.

m. Ordnance Survey have undertaken a positional accuracy improvement programme which may result in discrepancies between the positioning of features used in datasets in the Services and the updated Ordnance Survey mapping. Subject to clause 6.o below, Landmark and its Suppliers exclude all and any liability incurred as a result of the implementation of such positional accuracy improvement programme.

n. Where Landmark provides its own risk assessment in connection with any Report, Landmark shall carry out such assessment with all reasonable skill and care but shall have no liability for any such risk assessment conclusion which is provided for information only, save where Landmark conducted the same negligently, in which case the provisions of clause 6 shall apply. Notwithstanding the provision of any such risk assessment conclusion you should carefully examine the remainder of the Report and should not take or refrain from taking any action based solely on the basis of the risk assessment. For the avoidance of doubt, the provisions of this clause 6n apply solely to risk assessments conducted by Landmark, and the provision of any other risk assessment by a third party shall be governed by such third party's terms in accordance with the provisions of clause 6i above.

o. Landmark obtains much of the information contained in its Report from third parties. Landmark will not accept any liability to You for any negligent or incorrect entry, or error or corruption in the Third Party Content supplied to Landmark, but Landmark's Suppliers may be liable for such

negligent or incorrect entries, or errors or corruptions, subject to the terms and conditions on which they supply the Third Party Content to Landmark.

7. Contribution

a. Save where expressly provided, this clause 7 shall apply solely to Envirosearch Residential Reports (regardless of the result of such Report). Nothing in this clause 7 shall operate to override or vary the provisions of clause 6.

b. Landmark are prepared to offer, at their sole discretion, and without any admission or inference of liability a contribution towards the costs of any remediation works required under a Notice (as defined below) on the terms of this clause 7 ("the Contribution")

c. In the event that a Remediation Notice is served on the First Purchaser or First Purchaser's Lender of a Property Site under Part II(A) of the Environmental Protection Act 1990 ("the Notice") Landmark will contribute to the cost of such works as either the First Purchaser or First Purchaser's Lender (but not both) are required to carry out under the Notice subject to the provisions of this clause 7 and on the following terms:

i. the Contribution shall only apply to contamination or a pollution incident present or having occurred prior to the date of the Report;

ii. the Contribution shall only apply where the Property Site is a single residential dwelling house or a single residential flat within a block of flats. For the avoidance of doubt, this obligation does not apply to any commercial property, nor to any Property Site being developed or redeveloped whether for residential purposes or otherwise;

iii. the Contribution is strictly limited to the cost of works at the Property Site and at no other site.

iv. the Contribution will not be paid in respect of any of the following:

Radioactive contamination of whatsoever nature, directly or indirectly caused by or contributed to or arising from ionising radiations or contamination by radioactivity from any nuclear fuel or from any nuclear waste from the combustion of nuclear fuel or the radioactive toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof.

Asbestos arising out of or related in any way to asbestos or asbestos-containing materials on or in structures or services serving the structures. Naturally occurring materials arising from the presence or required removal of naturally occurring materials except in circumstances where such materials are present in concentrations which are in excess of their natural concentration.

Intentional non-compliance arising from the intentional disregard of or knowing wilful or deliberate non-compliance by any owner or occupier of the Property Site with any statute, regulation, administrative complaint, notice of violation, or notice letter of any Regulatory Authority.

Any condition which is known or ought reasonably to have been known to the First Purchaser or the First Purchaser's Lender prior to the purchase of the Report.

Any condition which is caused by acts of War or an Act of Terrorism.

Any property belonging to or in the custody or control of the First Purchaser which does not form a fixed part of the Property Site or the structure.

Any fines liquidated damages punitive or exemplary damages.

Any bodily injury including without limitation, death, illness or disease, mental injury, anguish or nervous shock.

Any financial loss in respect of any loss of any rental, profit, revenue, savings or business or any consequential indirect or economic loss damage or expense including the cost of rent of temporary premises or business interruption.

Any losses incurred following a material change in use of, alteration or development of the Property Site.

d. The maximum sum that shall be contributed by Landmark in respect of any Contribution shall be limited to £60,000.

In the event that more than one Report is purchased on the Property Site the Contribution will only be payable under the first Report purchased by or on behalf of any First Purchaser or First Purchaser's Lender and no Contribution will be made in respect of subsequent Reports purchased by or on behalf of such First Purchaser, First Purchaser's Lender or any person connected to them.

e. Landmark shall only pay a Contribution where the Notice is served within 36 months of the date of the Report.

f. Any rights to a Contribution under this Clause 7 are not assignable in the event of a sale of the Property Site and Landmark will not make any Contribution after the date of completion of such sale.

g. In the event the First Purchaser or First Purchaser's Lender wishes to claim any Contribution, it shall notify Landmark in writing within 3 months of the date of the Notice. The First Purchaser or First Purchaser's Lender (as applicable) shall comply with all reasonable requirements of Landmark with regard to the commission and conduct of the remediation works to be carried out under the Notice, and in the event the First Purchaser or First Purchaser's Lender (as applicable) does not do so, including without limitation, obtaining Landmark's prior written consent to any estimates for such works or

complying with any other reasonable request by Landmark, Landmark shall not be required to pay any Contribution. Notwithstanding the payment of the Contribution by Landmark the First Purchaser or First Purchaser's Lender as applicable shall take all reasonable steps to mitigate any costs incurred in connection with the conduct of works required under the terms of any Notice.

h. In the event that the First Purchaser or First Purchaser's Lender receives any communication from a statutory authority to the effect that there is an intent to serve a notice received under PartII(A) of the Environmental Protection Act 1990 they will advise Landmark within a maximum period of two months from receipt of such communication. This clause 7h and the service of any notice under it shall not affect the provisions of clauses 7 e and g, and any such communications, even if advised to Landmark will not operate as notice under clause 7e.

i. Landmark reserve the right at any time prior to a claim for Contribution being made in accordance with clause 7 g) above, to withdraw the offer of payment of Contributions without further notice.

8. Events Beyond Our Control

a. You acknowledge that Landmark shall not be liable for any delay, interruption or failure in the provision of the Services which are caused or contributed to by any circumstance which is outside our reasonable control including but not limited to, lack of power, telecommunications failure or overload, computer malfunction, inaccurate processing of data, or delays in receiving, loading or checking data, corruption of data whilst in the course of conversion, geo-coding, processing by computer in the course of electronic communication, or printing.

9. Severability

a. If any provision of these Terms are found by either a court or other competent authority to be void, illegal, invalid or unenforceable, that provision shall be deemed to be deleted from these Terms and never to have formed part of these Terms and the remaining provisions shall continue in full force and effect.

10. Governing Law

a. These terms shall be governed by and construed in accordance with English law and each party agrees irrevocably submit to the exclusive jurisdiction of the English courts if any dispute arises out of or in connection with this agreement (a "Dispute") the parties undertake that, prior to the commencement of Court proceedings, they will seek to have the Dispute resolved amicably by use of an alternative dispute resolution procedure acceptable to both parties with the assistance of the Centre for Dispute Resolution (CEDR) if required, by written notice initiating that procedure. If the Dispute has not been resolved to the satisfaction of either party within 60 days of initiation of the procedure or if either party fails or refuses to participate in or withdraws from participating in the procedure then either party may refer the Dispute to the Court.

11. General; Complaints

a. Landmark may assign its rights and obligations under these Terms without prior notice or any limitation.

b. Landmark may authorise or allow our contractors and other third parties to provide to Landmark and/or to You services necessary or related to the Services and to perform Landmark's obligations and exercise Landmark's rights under these Terms, which may include collecting payment on Landmark's behalf.

c. No waiver on Landmark's part to exercise, and no delay in exercising, any right, power or provision hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any right, power or provision hereunder preclude the exercise of that or any other right, power or provision.

d. Unless otherwise stated in these Terms, all notices from You to Landmark must be in writing and sent to the Landmark registered office (or in the case of an Authorised Reseller, to its registered office address) and subject to paragraph e below all notices from Landmark to You will be displayed on our Websites from time to time.

e. Any complaints in relation to the Services should, in the first instance, be in writing addressed to the Customer Service Support Manager at the Landmark registered office. Landmark or its agents will respond to any such complaints in writing as soon as practicably possible.

f. A person who is not a party to any contract made pursuant to these Terms shall have no right under the Contract (Right of Third Parties) Act 1999 to enforce any terms of such contract and Landmark shall not be liable to any such third party in respect of any Services supplied.

g. Landmark's Privacy Policy as displayed on the Website governs the use made of any information You supply to Landmark.

Appendix B

Envirocheck Report

Envirocheck[®] Report:

Datasheet

Order Details:

Order Number:

35564740_1_1

Customer Reference:

1004469

National Grid Reference:

435990, 566110

Slice:

A

Site Area (Ha):

5.6

Search Buffer (m):

1000

Site Details:

Residential Development

Trinity South

SOUTH SHIELDS

Tyne and Wear

Client Details:

Mr M Anderson

Cundall

Horsley House

Regent Centre, Gosforth

Newcastle Upon Tyne

NE3 3LU

Report Section	Page Number
Summary	-
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Waste	37
Hazardous Substances	48
Geological	49
Industrial Land Use	53
Sensitive Land Use	-
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Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination. For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.

In the attached datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Radon Potential dataset Copyright Notice

Information supplied from a joint dataset compiled by The British Geological Survey and the Health Protection Agency.

Report Version v47.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1		4	33	69
Enforcement and Prohibition Notices					
Integrated Pollution Controls	pg 27		11	1	
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control	pg 29		1		
Local Authority Pollution Prevention and Controls	pg 29		4	7	7
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 32			Yes	
Pollution Incidents to Controlled Waters	pg 32	1		2	14
Prosecutions Relating to Authorised Processes	pg 35		1		
Prosecutions Relating to Controlled Waters					
Registered Radioactive Substances	pg 35			2	1
River Quality					
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register	pg 35			1	
Water Abstractions	pg 35				(*1)
Water Industry Act Referrals					
Groundwater Vulnerability	pg 36	Yes	n/a	n/a	n/a
Bedrock Aquifer Designations	pg 36	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 36	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences	pg 36		Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 36		Yes	n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
Waste					
BGS Recorded Landfill Sites	pg 37				1
Historical Landfill Sites	pg 37		1	1	7
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)	pg 39		1		1
Licensed Waste Management Facilities (Locations)	pg 39			5	8
Local Authority Recorded Landfill Sites					
Registered Landfill Sites	pg 42			2	3
Registered Waste Transfer Sites	pg 45				1
Registered Waste Treatment or Disposal Sites	pg 45			4	2

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)	pg 48				1
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)	pg 48				1
Planning Hazardous Substance Consents	pg 48		1		2
Planning Hazardous Substance Enforcements					
Geological					
BGS Recorded Mineral Sites	pg 49		2	3	7
BGS 1:625,000 Solid Geology	pg 51	Yes	n/a	n/a	n/a
Brine Compensation Area			n/a	n/a	n/a
Coal Mining Affected Areas	pg 51	Yes	n/a	n/a	n/a
Mining Instability	pg 51	Yes	n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards				n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 51	Yes	Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 51	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 51		Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 52	Yes	Yes	n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 53	2	49	56	124
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Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones					
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Eldon Street Cso, Junction Of Eldon St & Reed St, South Shields, Tyne & Wear, Ne33 5ax Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1944 Permit Version: 2 Effective Date: 1st April 2010 Issued Date: 29th March 2010 Revocation Date: 1st December 2010 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A6NE (S)	33	1	435924 565908
1	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Eldon Street Cso, Junction Of Eldon St & Reed St, South Shields, Tyne & Wear, Ne33 5ax Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1944 Permit Version: 3 Effective Date: 2nd December 2010 Issued Date: 29th March 2010 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A6NE (S)	33	1	435924 565908
2	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Eldon Street Cso, Junction Of Eldon St & Reed St, South Shields, Tyne & Wear, Ne33 5ax Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1944 Permit Version: 1 Effective Date: 28th January 2005 Issued Date: 28th January 2005 Revocation Date: 31st March 2010 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: New Consent, by Application (Water Resources Act 1991, Section 88) Positional Accuracy: Located by supplier to within 10m</p>	A7NW (S)	122	1	436050 565800
2	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Eldon Street Cso, Junction Of Eldon St & Reed St, South Shields, Tyne & Wear, Ne33 5ax Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1175 Permit Version: 1 Effective Date: 2nd September 1992 Issued Date: 2nd September 1992 Revocation Date: 28th January 2005 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A7NW (S)	122	1	436050 565800

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: East Holborn East Cso, South Shields, South Tyneside Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1645 Permit Version: 1 Effective Date: 7th August 1998 Issued Date: 7th August 1998 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Saline Estuary Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A10NE (NW)	307	1	435740 566570
3	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: East Holborn West Cso, South Shields, South Tyneside Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1644 Permit Version: 1 Effective Date: 7th August 1998 Issued Date: 7th August 1998 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Saline Estuary Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A10NE (NW)	312	1	435730 566570
3	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Pumping Station - Water Company Location: East Holborn Pumping Station, South Shields, South Tyneside Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1646 Permit Version: 1 Effective Date: 7th August 1998 Issued Date: 7th August 1998 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Saline Estuary Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A10NE (NW)	333	1	435760 566610
4	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Tudor Road Cso Near Police Hq & Magistrates Ct, Tudor Road, South Shields, Tyne & Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1905 Permit Version: 1 Effective Date: 24th January 2005 Issued Date: 24th January 2005 Revocation Date: 1st December 2010 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A11NW (N)	319	1	436030 566600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
4	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Tudor Road Cso Near Police Hq & Magistrates Ct, Tudor Road, South Shields, Tyne & Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1905 Permit Version: 2 Effective Date: 2nd December 2010 Issued Date: 24th January 2005 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A11NW (N)	319	1	436030 566600
4	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Tudor Road Cso Near Police Hq & Magistrates Ct, Tudor Road, South Shields, Tyne & Wear Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1171 Permit Version: 1 Effective Date: 2nd September 1992 Issued Date: 2nd September 1992 Revocation Date: 24th January 2005 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A11NW (N)	319	1	436030 566600
5	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: West Holborn South Cso, South Shields, South Tyneside Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1945 Permit Version: 2 Effective Date: 1st April 2010 Issued Date: 29th March 2010 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Saline Estuary Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A10SW (W)	349	1	435556 566213
5	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Pumping Station - Water Company Location: West Holborn Pumping Station, South Shields, South Tyneside Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1655 Permit Version: 1 Effective Date: 10th August 1998 Issued Date: 10th August 1998 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Saline Estuary Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A10SW (W)	354	1	435550 566220

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: West Holborn South Cso, South Shields, South Tyneside Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1945 Permit Version: 1 Effective Date: 28th January 2005 Issued Date: 28th January 2005 Revocation Date: 31st March 2010 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Saline Estuary Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A10SW (W)	358	1	435550 566190
5	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: West Holborn South Cso, South Shields, South Tyneside Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1654 Permit Version: 1 Effective Date: 10th August 1998 Issued Date: 10th August 1998 Revocation Date: 28th January 2005 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Saline Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A10SW (W)	358	1	435550 566190
5	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: West Holborn North Cso, South Shields, South Tyneside Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1946 Permit Version: 1 Effective Date: 28th January 2005 Issued Date: 28th January 2005 Revocation Date: 19th March 2010 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Saline Estuary Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A10SW (W)	364	1	435540 566220
5	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: West Holborn North Cso, South Shields, South Tyneside Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1653 Permit Version: 1 Effective Date: 10th August 1998 Issued Date: 10th August 1998 Revocation Date: 28th January 2005 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Saline Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A10SW (W)	364	1	435540 566220

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	<p>Discharge Consents</p> <p>Operator: Redundant - Northumbrian Water Ltd Property Type: Trade (Unknown/Other) Location: Weetman Street Outfall L - B12, South Shields Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/X/0084 Permit Version: 1 Effective Date: 28th April 1987 Issued Date: 28th April 1987 Revocation Date: 29th October 1992 Discharge Type: Unspecified Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A10SW (W)	405	1	435500 566210
5	<p>Discharge Consents</p> <p>Operator: Unknown, Property Type: Sewage Disposal Works - Other Location: Mcnulty Quay, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/0550 Permit Version: 1 Effective Date: 14th January 1988 Issued Date: 14th January 1988 Revocation Date: 25th December 1991 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A10SW (W)	406	1	435500 566200
6	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Trade (Unknown/Other) Location: Harton High Staithes Sewer, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1176 Permit Version: 1 Effective Date: 29th October 1992 Issued Date: 29th October 1992 Revocation Date: 9th March 1999 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A10SW (NW)	365	1	435540 566380
6	<p>Discharge Consents</p> <p>Operator: Redundant - Northumbrian Water Ltd Property Type: Sewerage Network - Sewers - Water Company Location: Eldon Street/Reed Street Sso, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/X/0024 Permit Version: 1 Effective Date: 18th February 1987 Issued Date: 18th February 1987 Revocation Date: 2nd September 1992 Discharge Type: Unspecified Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A10SW (NW)	365	1	435540 566380

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	<p>Discharge Consents</p> <p>Operator: Redundant - Northumbrian Water Ltd Property Type: Trade (Unknown/Other) Location: Harton High Staithes Sewer, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/X/0040 Permit Version: 1 Effective Date: 11th February 1987 Issued Date: 11th February 1987 Revocation Date: 29th October 1992 Discharge Type: Unspecified Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A10SW (NW)	365	1	435540 566380
7	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Pumping Station - Water Company Location: Smith Street Pumping Station, Jct Smith St & Corstorphine Town, South Shields, Tyne & Wear, Ne33 1qx Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1652 Permit Version: 1 Effective Date: 10th August 1998 Issued Date: 10th August 1998 Revocation Date: 30th March 2010 Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Saline Estuary Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A6NW (SW)	372	1	435570 565910
7	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Smith Street Cso, South Shields, South Tyneside Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1942 Permit Version: 1 Effective Date: 28th January 2005 Issued Date: 28th January 2005 Revocation Date: 21st September 2010 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Saline Estuary Status: Surrendered under EPR 2010 Positional Accuracy: Located by supplier to within 10m</p>	A6NW (SW)	381	1	435560 565920
7	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Smith Street Cso, South Shields, South Tyneside Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1648 Permit Version: 1 Effective Date: 10th August 1998 Issued Date: 10th August 1998 Revocation Date: 28th January 2005 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Saline Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A6NW (SW)	381	1	435560 565920

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Pumping Station - Water Company Location: Smith Street Pumping Station, Jct Smith St & Corstorphine Town, South Shields, Tyne & Wear, Ne33 1qx Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1652 Permit Version: 2 Effective Date: 31st March 2010 Issued Date: 31st March 2010 Revocation Date: 2nd December 2010 Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Saline Estuary Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A6NW (SW)	389	1	435553 565909
7	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Pumping Station - Water Company Location: Smith Street Pumping Station, Jct Smith St & Corstorphine Town, South Shields, Tyne & Wear, Ne33 1qx Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1652 Permit Version: 2 Effective Date: 31st March 2010 Issued Date: 31st March 2010 Revocation Date: 2nd December 2010 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Saline Estuary Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A6NW (SW)	389	1	435553 565909
7	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Pumping Station - Water Company Location: Smith Street Pumping Station, Jct Smith St & Corstorphine Town, South Shields, Tyne & Wear, Ne33 1qx Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1652 Permit Version: 3 Effective Date: 3rd December 2010 Issued Date: 31st March 2010 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Saline Estuary Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A6NW (SW)	389	1	435553 565909
7	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Pumping Station - Water Company Location: Smith Street Pumping Station, Jct Smith St & Corstorphine Town, South Shields, Tyne & Wear, Ne33 1qx Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1652 Permit Version: 3 Effective Date: 3rd December 2010 Issued Date: 31st March 2010 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Saline Estuary Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A6NW (SW)	389	1	435553 565909

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Smith Street/Corstorphine Road Cso, South Shields, South Tyneside Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1651 Permit Version: 1 Effective Date: 10th August 1998 Issued Date: 10th August 1998 Revocation Date: 28th February 2005 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Saline Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A6NW (SW)	391	1	435550 565920
7	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Corstorphine Town Cso, South Shields, South Tyneside Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1941 Permit Version: 1 Effective Date: 28th January 2005 Issued Date: 28th January 2005 Revocation Date: 21st September 2010 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Saline Estuary Status: Surrendered under EPR 2010 Positional Accuracy: Located by supplier to within 10m</p>	A6NW (SW)	392	1	435550 565910
7	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Corstorphine Town Cso, South Shields, South Tyneside Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1649 Permit Version: 1 Effective Date: 10th August 1998 Issued Date: 10th August 1998 Revocation Date: 28th January 2005 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Saline Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A6NW (SW)	392	1	435550 565910
8	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewage Disposal Works - Water Company Location: East Holborn Septic Tank, South Shields, South Tyneside Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1647 Permit Version: 1 Effective Date: 7th August 1998 Issued Date: 7th August 1998 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Saline Estuary Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A10NE (NW)	381	1	435680 566620

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
8	<p>Discharge Consents</p> <p>Operator: Redundant - Northumbrian Water Ltd Property Type: Trade (Unknown/Other) Location: Harton Low Staithes (Middle Dock) S, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/X/0083 Permit Version: 1 Effective Date: 28th April 1987 Issued Date: 28th April 1987 Revocation Date: 29th October 1992 Discharge Type: Unspecified Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A10NE (NW)	387	1	435670 566620
8	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Trade (Unknown/Other) Location: Harton Low Staithes (Middle Dock) S, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1174 Permit Version: 1 Effective Date: 29th October 1992 Issued Date: 29th October 1992 Revocation Date: 9th March 1999 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A10NE (NW)	395	1	435670 566630
9	<p>Discharge Consents</p> <p>Operator: Unknown, Property Type: Sewage Disposal Works - Other Location: Whitehill Point Care Ferry Terminal, Albert Edward Dock, North Shields Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/B/0041 Permit Version: 1 Effective Date: 16th July 1965 Issued Date: 16th July 1965 Revocation Date: 25th December 1965 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A10NW (NW)	442	1	435500 566500
10	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Others Location: Weetman Street Sewer, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1178 Permit Version: 1 Effective Date: 29th October 1992 Issued Date: 29th October 1992 Revocation Date: 9th March 1999 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A10SW (W)	443	1	435460 566220

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
11	<p>Discharge Consents</p> <p>Operator: Mcnulty Offshore Services Limited Property Type: Sewage Disposal Works - Other Location: Mcnulty Marine Services, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/0528 Permit Version: 1 Effective Date: 14th January 1988 Issued Date: 14th January 1988 Revocation Date: 24th July 2001 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A10SW (W)	482	1	435430 566150
12	<p>Discharge Consents</p> <p>Operator: Mcnulty Offshore Services Limited Property Type: Sewage Disposal Works - Other Location: Mcnulty Marine Services, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/0554 Permit Version: 1 Effective Date: 14th January 1988 Issued Date: 14th January 1988 Revocation Date: 24th July 2001 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A6NW (W)	518	1	435420 565940
13	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Mitre Place Cso, South Shields, South Tyneside Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1940 Permit Version: 1 Effective Date: 28th January 2005 Issued Date: 28th January 2005 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Saline Estuary Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A6SW (SW)	530	1	435540 565590
13	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Mitre Place Cso, South Shields, South Tyneside Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1650 Permit Version: 1 Effective Date: 10th August 1998 Issued Date: 10th August 1998 Revocation Date: 28th January 2005 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Saline Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A6SW (SW)	530	1	435540 565590

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
14	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Trade (Unknown/Other) Location: Dalton Lane Depot, Mill Dam, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1380 Permit Version: 1 Effective Date: 29th April 1993 Issued Date: 29th April 1993 Revocation Date: 29th September 1998 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A14SE (N)	540	1	435810 566840
15	<p>Discharge Consents</p> <p>Operator: Redundant - Northumbrian Water Ltd Property Type: Trade (Unknown/Other) Location: Temple Street, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/X/0025 Permit Version: 1 Effective Date: 18th February 1987 Issued Date: 18th February 1987 Revocation Date: 2nd September 1992 Discharge Type: Unspecified Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A2NE (S)	552	1	435810 565400
16	<p>Discharge Consents</p> <p>Operator: Port Of Tyne Authority Property Type: Trade (Unknown/Other) Location: Outfall No 18, Tyne Dock, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1811 Permit Version: 1 Effective Date: 22nd May 2001 Issued Date: 22nd May 2001 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Saline Estuary Environment: Receiving Water: River Tyne Saline Estuary Status: Consent without application (Water Resources Act 1991, Schedule 10) Positional Accuracy: Located by supplier to within 10m</p>	A6NW (SW)	559	1	435390 565840
16	<p>Discharge Consents</p> <p>Operator: Port Of Tyne Authority Property Type: Trade (Unknown/Other) Location: Outfall No 18, Tyne Dock, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1080 Permit Version: 1 Effective Date: 21st May 1991 Issued Date: 21st May 1991 Revocation Date: 22nd May 2001 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne (Tidal) Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m</p>	A6NW (SW)	559	1	435390 565840

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
16	<p>Discharge Consents</p> <p>Operator: Unknown, Property Type: Trade (Unknown/Other) Location: Outfall No 18, Tyne Dock, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/X/0314 Permit Version: 1 Effective Date: 24th July 1987 Issued Date: 24th July 1987 Revocation Date: 21st May 1991 Discharge Type: Unspecified Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A6NW (SW)	559	1	435390 565840
17	<p>Discharge Consents</p> <p>Operator: Redundant - Northumbrian Water Ltd Property Type: Trade (Unknown/Other) Location: Harton Low Staithes (Mill Dam), South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/X/0082 Permit Version: 1 Effective Date: 28th April 1987 Issued Date: 28th April 1987 Revocation Date: 29th October 1992 Discharge Type: Unspecified Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A14SE (N)	565	1	435850 566870
17	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Harton Low Staithes (Mill Dam) Cso, South Shields, South Tyneside Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1907 Permit Version: 1 Effective Date: 24th January 2005 Issued Date: 24th January 2005 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Saline Estuary Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A14SE (N)	573	1	435870 566880
17	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Harton Low Staithes (Mill Dam) Cso, South Shields, South Tyneside Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Tea/Don Reference: 235/1636 Permit Version: 1 Effective Date: 19th January 1999 Issued Date: 19th January 1999 Revocation Date: 24th January 2005 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Saline Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A14SE (N)	573	1	435870 566880

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
17	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Trade (Unknown/Other) Location: Dalton Lane Police Station, Mill Dam, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1383 Permit Version: 1 Effective Date: 20th April 1993 Issued Date: 20th April 1993 Revocation Date: 9th March 1999 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A14SE (N)	578	1	435820 566880
17	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Trade (Unknown/Other) Location: Harton Low Staithes (Mill Dam), South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1408 Permit Version: 1 Effective Date: 19th July 1993 Issued Date: 19th July 1993 Revocation Date: 9th March 1999 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A14SE (N)	606	1	435840 566910
17	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Trade (Unknown/Other) Location: Harton Low Staithes (Mill Dam), South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1172 Permit Version: 1 Effective Date: 29th October 1992 Issued Date: 29th October 1992 Revocation Date: 19th July 1993 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A14SE (N)	606	1	435840 566910
17	<p>Discharge Consents</p> <p>Operator: Redundant - Northumbrian Water Ltd Property Type: Trade (Unknown/Other) Location: Harton Low Staithes (Mill Dam), South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/X/0023 Permit Version: 1 Effective Date: 18th February 1987 Issued Date: 18th February 1987 Revocation Date: 2nd September 1992 Discharge Type: Unspecified Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A14SE (N)	606	1	435840 566910

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
18	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Smith St/Costorphine Rd Cso, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1984 Permit Version: 1 Effective Date: 28th February 2005 Issued Date: 28th February 2005 Revocation Date: 21st September 2010 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Saline Estuary Status: Surrendered under EPR 2010 Positional Accuracy: Located by supplier to within 10m</p>	A6NW (W)	580	1	435350 566010
19	<p>Discharge Consents</p> <p>Operator: Port Of Tyne Authority Property Type: Trade (Unknown/Other) Location: Outfall No 15, Ro-Ro Berth No 3, Wh, North Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1809 Permit Version: 1 Effective Date: 22nd May 2001 Issued Date: 22nd May 2001 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Saline Estuary Environment: Receiving Water: River Tyne Saline Estuary Status: Consent without application (Water Resources Act 1991, Schedule 10) Positional Accuracy: Located by supplier to within 10m</p>	A9NE (NW)	644	1	435330 566610
19	<p>Discharge Consents</p> <p>Operator: Port Of Tyne Authority Property Type: Trade (Unknown/Other) Location: Outfall No 15, Ro-Ro Berth No 3, Wh, North Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1079 Permit Version: 1 Effective Date: 4th June 1991 Issued Date: 4th June 1991 Revocation Date: 22nd May 2001 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne (Tidal) Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m</p>	A9NE (NW)	648	1	435330 566620
19	<p>Discharge Consents</p> <p>Operator: Unknown, Property Type: Trade (Unknown/Other) Location: Outfall No 15, Ro-Ro Berth No 3, Wh, North Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/X/0311 Permit Version: 1 Effective Date: 24th July 1987 Issued Date: 24th July 1987 Revocation Date: 4th June 1991 Discharge Type: Unspecified Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A9NE (NW)	648	1	435330 566620

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
19	<p>Discharge Consents</p> <p>Operator: Port Of Tyne Authority Property Type: Sewage Disposal Works - Other Location: Outfall No 14a, Ro-Ro Berth No 3, W, North Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1065 Permit Version: 1 Effective Date: 4th June 1991 Issued Date: 4th June 1991 Revocation Date: 11th September 2001 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne (Tidal) Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A9NE (NW)	653	1	435330 566630
19	<p>Discharge Consents</p> <p>Operator: Unknown, Property Type: Sewage Disposal Works - Other Location: Outfall No 14a, Ro-Ro Berth No 3, W, North Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/X/0310 Permit Version: 1 Effective Date: 24th July 1987 Issued Date: 24th July 1987 Revocation Date: 4th June 1991 Discharge Type: Unspecified Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A9NE (NW)	653	1	435330 566630
19	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Pumping Station - Water Company Location: Whitehill Point Pumping Station, Royal Quays, Newcastle Upon Tyne Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1622 Permit Version: 1 Effective Date: 4th March 1998 Issued Date: 4th March 1998 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A9NE (NW)	689	1	435300 566650
20	<p>Discharge Consents</p> <p>Operator: Port Of Tyne Authority Property Type: Trade (Unknown/Other) Location: Outfall No 14, Ro-Ro Berth No 3, Wh, North Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1078 Permit Version: 1 Effective Date: 4th June 1991 Issued Date: 4th June 1991 Revocation Date: 11th September 2001 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne (Tidal) Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A10NW (NW)	645	1	435340 566630

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
21	<p>Discharge Consents</p> <p>Operator: Unknown, Property Type: Trade (Unknown/Other) Location: Port Of Tyne - Albert Edward Dock E, North Shields Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/X/0306 Permit Version: 1 Effective Date: 24th July 1987 Issued Date: 24th July 1987 Revocation Date: 3rd May 1991 Discharge Type: Unspecified Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A9NE (NW)	660	1	435280 566540
22	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Pumping Station - Water Company Location: Coronation Street Pumping Station, South Shields, Tyne & Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1906 Permit Version: 1 Effective Date: 24th January 2005 Issued Date: 24th January 2005 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: New Consent, by Application (Water Resources Act 1991, Section 88) Positional Accuracy: Located by supplier to within 10m</p>	A15SW (N)	678	1	436180 566930
22	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Pumping Station - Water Company Location: Coronation Street Pumping Station, South Shields, Tyne & Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1906 Permit Version: 1 Effective Date: 24th January 2005 Issued Date: 24th January 2005 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: New Consent, by Application (Water Resources Act 1991, Section 88) Positional Accuracy: Located by supplier to within 10m</p>	A15SW (N)	678	1	436180 566930
22	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Pumping Station - Water Company Location: Coronation Street Pumping Station, South Shields, Tyne & Wear Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1173 Permit Version: 1 Effective Date: 10th December 1992 Issued Date: 10th December 1992 Revocation Date: 24th January 2005 Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A15SW (N)	678	1	436180 566930

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
22	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Pumping Station - Water Company Location: Coronation Street Pumping Station, South Shields, Tyne & Wear Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1173 Permit Version: 1 Effective Date: 10th December 1992 Issued Date: 10th December 1992 Revocation Date: 24th January 2005 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A15SW (N)	678	1	436180 566930
23	<p>Discharge Consents</p> <p>Operator: Port Of Tyne Authority Property Type: Trade (Unknown/Other) Location: Outfall No 4, Tyne Commission Quay, North Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1074 Permit Version: 1 Effective Date: 21st May 1991 Issued Date: 21st May 1991 Revocation Date: 11th September 2001 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne (Tidal) Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A10NW (NW)	680	1	435390 566760
23	<p>Discharge Consents</p> <p>Operator: Unknown, Property Type: Trade (Unknown/Other) Location: Outfall No 4, Tyne Commission Quay, North Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/X/0299 Permit Version: 1 Effective Date: 24th July 1987 Issued Date: 24th July 1987 Revocation Date: 21st May 1991 Discharge Type: Unspecified Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A10NW (NW)	687	1	435390 566770
24	<p>Discharge Consents</p> <p>Operator: Port Of Tyne Authority Property Type: Coal Extraction, Surface Location: Coal Handling Plant, Tyne Dock, Jarrow Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/B/0304 Permit Version: 1 Effective Date: 3rd January 1984 Issued Date: 3rd January 1984 Revocation Date: 4th November 1998 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A5SE (SW)	683	1	435300 565700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
24	<p>Discharge Consents</p> <p>Operator: Port Of Tyne Authority Property Type: Coal Extraction, Surface Location: Coal Handling Plant, Tyne Dock, Jarrow Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/B/0303 Permit Version: 1 Effective Date: 3rd January 1984 Issued Date: 3rd January 1984 Revocation Date: 22nd May 2001 Discharge Type: Trade Discharges - Site Drainage Discharge: Saline Estuary Environment: Receiving Water: Tyne Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m</p>	A5SE (SW)	683	1	435300 565700
24	<p>Discharge Consents</p> <p>Operator: Port Of Tyne Authority Property Type: Not Given Location: Coal Handling Plant, Tyne Dock, JARROW Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/B/0303/2685 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 3rd January 1984 Revocation Date: Not Supplied Discharge Type: Septic tank Discharge: Tidal Waters Environment: Receiving Water: Tyne Status: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A5SE (SW)	685	1	435300 565695
25	<p>Discharge Consents</p> <p>Operator: Port Of Tyne Authority Property Type: Sewage Disposal Works - Other Location: Outfall No 16, Ro-Ro Berth No 4, Wh, North Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1808 Permit Version: 1 Effective Date: 22nd May 2001 Issued Date: 22nd May 2001 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Saline Estuary Environment: Receiving Water: River Tyne Saline Estuary Status: Consent without application (Water Resources Act 1991, Schedule 10) Positional Accuracy: Located by supplier to within 10m</p>	A9SE (NW)	693	1	435220 566450
25	<p>Discharge Consents</p> <p>Operator: Port Of Tyne Authority Property Type: Sewage Disposal Works - Other Location: Outfall No 16, Ro-Ro Berth No 4, Wh, North Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1066 Permit Version: 1 Effective Date: 4th June 1991 Issued Date: 4th June 1991 Revocation Date: 22nd May 2001 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne (Tidal) Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m</p>	A9SE (NW)	693	1	435220 566450

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
26	<p>Discharge Consents</p> <p>Operator: Port Of Tyne Authority Property Type: Vehicle Washing Location: Riverside Quay Vehicle Wash, Tyne Dock, South Shields Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1780 Permit Version: 1 Effective Date: 7th August 2000 Issued Date: 7th August 2000 Revocation Date: Not Supplied Discharge Type: Trade Discharge - Process Water Discharge: Saline Estuary Environment: Receiving Water: River Tyne Saline Estuary Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A5NE (W)	732	1	435220 565810
27	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Pumping Station - Water Company Location: Harton Low Staithes Pumping Station, South Shields, South Tyneside Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1638 Permit Version: 1 Effective Date: 20th January 1999 Issued Date: 20th January 1999 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Saline Estuary Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A14SE (N)	734	1	435940 567040
28	<p>Discharge Consents</p> <p>Operator: Port Of Tyne Authority Property Type: Sewage Disposal Works - Other Location: Outfall No 9, Tyne Dock, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1068 Permit Version: 1 Effective Date: 21st May 1991 Issued Date: 21st May 1991 Revocation Date: 11th September 2001 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne (Tidal) Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A5SE (SW)	738	1	435230 565740
28	<p>Discharge Consents</p> <p>Operator: Unknown, Property Type: Sewage Disposal Works - Other Location: Outfall No 9, Tyne Dock, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/X/0315 Permit Version: 1 Effective Date: 24th July 1987 Issued Date: 24th July 1987 Revocation Date: 21st May 1991 Discharge Type: Unspecified Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A5SE (SW)	738	1	435230 565740

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
29	<p>Discharge Consents</p> <p>Operator: Port Of Tyne Authority Property Type: Trade (Unknown/Other) Location: Outfall No 13, Albert Edward Dock, North Shields Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1077 Permit Version: 1 Effective Date: 21st May 1991 Issued Date: 21st May 1991 Revocation Date: 11th September 2001 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne (Tidal) Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A13SE (NW)	752	1	435330 566800
29	<p>Discharge Consents</p> <p>Operator: Unknown, Property Type: Trade (Unknown/Other) Location: Outfall No 13, Albert Edward Dock, North Shields Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/X/0308 Permit Version: 1 Effective Date: 24th July 1987 Issued Date: 24th July 1987 Revocation Date: 21st May 1991 Discharge Type: Unspecified Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A13SE (NW)	752	1	435330 566800
29	<p>Discharge Consents</p> <p>Operator: Unknown, Property Type: Sewage Disposal Works - Other Location: Customs Car Examination Shed, Tyne, Albert Edward Dock, North Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/B/0013 Permit Version: 1 Effective Date: 1st May 1961 Issued Date: 1st May 1961 Revocation Date: 25th December 1965 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A13SE (NW)	775	1	435300 566800
30	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Temple Street Cso Opposite Junction Of, Temple St West & South Eldon St, South Shields, Tyne & Wear, Ne33 5al Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1943 Permit Version: 1 Effective Date: 28th January 2005 Issued Date: 28th January 2005 Revocation Date: 2nd December 2010 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: New Consent, by Application (Water Resources Act 1991, Section 88) Positional Accuracy: Located by supplier to within 10m</p>	A2NE (S)	759	1	435950 565170

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
30	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Temple Street Cso Opposite Junction Of, Temple St West & South Eldon St, South Shields, Tyne & Wear, Ne33 5al Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1943 Permit Version: 2 Effective Date: 3rd December 2010 Issued Date: 28th January 2005 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: New Consent, by Application (Water Resources Act 1991, Section 88) Positional Accuracy: Located by supplier to within 10m</p>	A2NE (S)	759	1	435950 565170
30	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Temple Street Cso Opposite Junction Of, Temple St West & South Eldon St, South Shields, Tyne & Wear, Ne33 5al Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1177 Permit Version: 1 Effective Date: 2nd September 1992 Issued Date: 2nd September 1992 Revocation Date: 28th January 2005 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A2NE (S)	759	1	435950 565170
31	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Pumping Station - Water Company Location: Coronation St Cso, 10 Coronation St, South Shields, Newcastle Upon Tyne, Ne33 1az Authority: Environment Agency, North East Region Catchment Area: South Tyne; Allen; Nent Reference: Eprbp3720xy Permit Version: 1 Effective Date: 14th June 2010 Issued Date: 14th June 2010 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: River Tyne Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A15SW (N)	763	1	436196 567014
32	<p>Discharge Consents</p> <p>Operator: Port Of Tyne Authority Property Type: Sewage Disposal Works - Other Location: North West Quay, A Portable Office, Tyne Dock, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1815 Permit Version: 1 Effective Date: 22nd May 2001 Issued Date: 22nd May 2001 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Saline Estuary Environment: Receiving Water: River Tyne Saline Estuary Status: Consent without application (Water Resources Act 1991, Schedule 10) Positional Accuracy: Located by supplier to within 10m</p>	A5SE (SW)	782	1	435210 565660

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
32	<p>Discharge Consents</p> <p>Operator: Port Of Tyne Authority Property Type: Sewage Disposal Works - Other Location: North West Quay, A Portable Office, Tyne Dock, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1007 Permit Version: 1 Effective Date: 22nd May 1989 Issued Date: 22nd May 1989 Revocation Date: 22nd May 2001 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m</p>	A5SE (SW)	782	1	435210 565660
33	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: King Street Cso, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1904 Permit Version: 1 Effective Date: 24th January 2005 Issued Date: 24th January 2005 Revocation Date: 1st April 2010 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A14SE (N)	783	1	435910 567090
33	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Harton Low Staithees Cso, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1169 Permit Version: 1 Effective Date: 29th October 1992 Issued Date: 29th October 1992 Revocation Date: 9th March 1999 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A14SE (N)	783	1	435910 567090
33	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: King Street Cso, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1170 Permit Version: 1 Effective Date: 7th September 1992 Issued Date: 7th September 1992 Revocation Date: 24th January 2005 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A14SE (N)	783	1	435910 567090

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
33	<p>Discharge Consents</p> <p>Operator: Redundant - Northumbrian Water Ltd Property Type: Sewerage Network - Sewers - Water Company Location: Harton Low Staithees Cso, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/X/0022 Permit Version: 1 Effective Date: 18th February 1987 Issued Date: 18th February 1987 Revocation Date: 7th September 1992 Discharge Type: Unspecified Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A14SE (N)	783	1	435910 567090
33	<p>Discharge Consents</p> <p>Operator: Redundant - Northumbrian Water Ltd Property Type: Trade (Unknown/Other) Location: Harton Low Staithees North - B6, South Shields Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/X/0134 Permit Version: 1 Effective Date: 5th June 1987 Issued Date: 5th June 1987 Revocation Date: 10th December 1992 Discharge Type: Unspecified Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A14SE (N)	803	1	435910 567110
34	<p>Discharge Consents</p> <p>Operator: Port Of Tyne Authority Property Type: Trade (Unknown/Other) Location: Outfall No 12, Tyne Commission, North Shields Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1076 Permit Version: 1 Effective Date: 21st May 1991 Issued Date: 21st May 1991 Revocation Date: 11th September 2001 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne (Tidal) Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A14SW (NW)	805	1	435400 566940
34	<p>Discharge Consents</p> <p>Operator: Unknown, Property Type: Trade (Unknown/Other) Location: Outfall No 12, Tyne Commission, North Shields Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/X/0307 Permit Version: 1 Effective Date: 24th July 1987 Issued Date: 24th July 1987 Revocation Date: 21st May 1991 Discharge Type: Unspecified Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A14SW (NW)	805	1	435400 566940

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
35	<p>Discharge Consents</p> <p>Operator: Redundant - Northumbrian Water Ltd Property Type: Trade (Unknown/Other) Location: Harton Low Staithes North - B6, South Shields Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/X/0081 Permit Version: 1 Effective Date: 28th April 1987 Issued Date: 28th April 1987 Revocation Date: 29th October 1992 Discharge Type: Unspecified Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A14SE (N)	808	1	435990 567110
36	<p>Discharge Consents</p> <p>Operator: Port Of Tyne Authority Property Type: Sewage Disposal Works - Other Location: Outfall No 20a, Riverside Quay, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1069 Permit Version: 1 Effective Date: 21st May 1991 Issued Date: 21st May 1991 Revocation Date: 22nd May 2001 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne (Tidal) Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m</p>	A5NE (W)	835	1	435110 565860
36	<p>Discharge Consents</p> <p>Operator: Unknown, Property Type: Sewage Disposal Works - Other Location: Outfall No 20a, Riverside Quay, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/X/0317 Permit Version: 1 Effective Date: 24th July 1987 Issued Date: 24th July 1987 Revocation Date: 21st May 1991 Discharge Type: Unspecified Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A5NE (W)	835	1	435110 565860
36	<p>Discharge Consents</p> <p>Operator: Port Of Tyne Authority Property Type: Sewage Disposal Works - Other Location: Outfall No 20a, Riverside Quay, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/1816 Permit Version: 1 Effective Date: 22nd May 2001 Issued Date: 22nd May 2001 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Saline Estuary Environment: Receiving Water: River Tyne Saline Estuary Status: Consent without application (Water Resources Act 1991, Schedule 10) Positional Accuracy: Located by supplier to within 10m</p>	A5NE (W)	846	1	435100 565850

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
37	<p>Discharge Consents</p> <p>Operator: Unknown, Property Type: Trade (Unknown/Other) Location: Port Of Tyne - Albert Edward Dock E, North Shields Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/X/0304 Permit Version: 1 Effective Date: 24th July 1987 Issued Date: 24th July 1987 Revocation Date: 3rd May 1991 Discharge Type: Unspecified Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A14SW (NW)	886	1	435400 567040
38	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Sewers - Others Location: Spring Lane Sewer, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1168 Permit Version: 1 Effective Date: 29th October 1992 Issued Date: 29th October 1992 Revocation Date: 9th March 1999 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A14NE (N)	923	1	435930 567230
38	<p>Discharge Consents</p> <p>Operator: Redundant - Northumbrian Water Ltd Property Type: Trade (Unknown/Other) Location: Spring Lane Outfall G - B5, South Shields Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/X/0080 Permit Version: 1 Effective Date: 28th April 1987 Issued Date: 28th April 1987 Revocation Date: 29th October 1992 Discharge Type: Unspecified Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A14NE (N)	926	1	435980 567230
39	<p>Discharge Consents</p> <p>Operator: Northumbrian Water Limited Property Type: Sewerage Network - Pumping Station - Water Company Location: Ballast Hill Ps, Royal Quays, Alber, North Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1121 Permit Version: 1 Effective Date: 7th February 1992 Issued Date: 7th February 1992 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: New Consent, by Application (Water Resources Act 1991, Section 88) Positional Accuracy: Located by supplier to within 100m</p>	A13SE (NW)	925	1	435320 567030

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
40	<p>Discharge Consents</p> <p>Operator: Redundant - Northumbrian Water Ltd Property Type: Trade (Unknown/Other) Location: Outfall At Dock Road South, North Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/X/0053 Permit Version: 1 Effective Date: 9th April 1987 Issued Date: 9th April 1987 Revocation Date: 6th November 1995 Discharge Type: Unspecified Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A14NW (NW)	932	1	435480 567140
41	<p>Discharge Consents</p> <p>Operator: Port Of Tyne Authority Property Type: Undefined Or Other Location: Transit Sheds 5 And 6, SOUTH SHIELDS Authority: Environment Agency, North East Region Catchment Area: Not Given Reference: 235/1593 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Unknown Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A1NE (SW)	952	1	435180 565365
42	<p>Discharge Consents</p> <p>Operator: Port Of Tyne Authority Property Type: Trade (Unknown/Other) Location: Outfall No 10, Albert Edward Dock, North Shields Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1075 Permit Version: 1 Effective Date: 21st May 1991 Issued Date: 21st May 1991 Revocation Date: 11th September 2001 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne (Tidal) Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m</p>	A13SE (NW)	956	1	435250 567010
42	<p>Discharge Consents</p> <p>Operator: Unknown, Property Type: Trade (Unknown/Other) Location: Outfall No 10, Albert Edward Dock, North Shields Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/X/0305 Permit Version: 1 Effective Date: 24th July 1987 Issued Date: 24th July 1987 Revocation Date: 21st May 1991 Discharge Type: Unspecified Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m</p>	A13SE (NW)	956	1	435250 567010

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
43	Discharge Consents Operator: Port Of Tyne Authority Property Type: Trade (Unknown/Other) Location: Outfall No 20, Riverside Quay, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Tyne (Lower)/Team/Don Reference: 235/1081 Permit Version: 1 Effective Date: 21st May 1991 Issued Date: 21st May 1991 Revocation Date: 5th December 1996 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Saline Estuary Environment: Receiving Water: Tyne (Tidal) Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m	A5NW (W)	991	1	434960 565800
43	Discharge Consents Operator: Unknown, Property Type: Trade (Unknown/Other) Location: Outfall No 20, Riverside Quay, South Shields, Tyne And Wear Authority: Environment Agency, North East Region Catchment Area: Not Supplied Reference: 235/X/0316 Permit Version: 1 Effective Date: 24th July 1987 Issued Date: 24th July 1987 Revocation Date: 21st May 1991 Discharge Type: Unspecified Discharge: Saline Estuary Environment: Receiving Water: Tyne Estuary Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m	A5NW (W)	991	1	434960 565800
44	Integrated Pollution Controls Name: Circ Realisations Ltd Location: Eldon Street, SOUTH SHIELDS, Tyne And Wear, NE33 5BU Authority: Environment Agency, North East Region Permit Reference: BB9687 Dated: 21st December 1998 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.4 A (A) processes involving Halogens within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Automatically positioned to the address	A10SE (W)	98	1	435821 566127
44	Integrated Pollution Controls Name: Circ Realisations Ltd Location: Eldon Street, SOUTH SHIELDS, Tyne And Wear, NE33 5BU Authority: Environment Agency, North East Region Permit Reference: AV8178 Dated: 30th August 1996 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.4 A (A) processes involving Halogens within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Automatically positioned to the address	A10SE (W)	99	1	435821 566122
44	Integrated Pollution Controls Name: Circ Realisations Ltd Location: Eldon Street, SOUTH SHIELDS, Tyne And Wear, NE33 5BU Authority: Environment Agency, North East Region Permit Reference: A18285 Dated: 11th August 1993 Process Type: IPC new application Description: 4.4 A (A) processes involving Halogens within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Automatically positioned to the address	A10SE (W)	99	1	435821 566117
44	Integrated Pollution Controls Name: Circ Realisations Ltd Location: Eldon Street, SOUTH SHIELDS, Tyne And Wear, NE33 5BU Authority: Environment Agency, North East Region Permit Reference: BD6166 Dated: 24th November 1998 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.4 A (A) processes involving Halogens within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Automatically positioned to the address	A10SE (W)	103	1	435816 566127

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
44	Integrated Pollution Controls Name: Circ Realisations Ltd Location: Eldon Street, SOUTH SHIELDS, Tyne and Wear, NE33 5BU Authority: Environment Agency, North East Region Permit Reference: Bu0621 Dated: 5th March 2003 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.4 A (A) processes involving Halogens within the Chemical Industry Status: Authorisation revokedRevoked Positional Accuracy: Automatically positioned to the address	A10SE (W)	104	1	435816 566122
44	Integrated Pollution Controls Name: Circ Realisations Ltd Location: Eldon Street, SOUTH SHIELDS, Tyne and Wear, NE33 5BU Authority: Environment Agency, North East Region Permit Reference: B11703 Dated: 23rd November 2001 Process Type: IPC major (substantial) variation Description: 4.4 A (A) processes involving Halogens within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Automatically positioned to the address	A10SE (W)	104	1	435816 566122
44	Integrated Pollution Controls Name: Circ Realisations Ltd Location: Eldon Street, South Shields, Tyne And Wear, NE33 5BU Authority: Environment Agency, North East Region Permit Reference: Bj9363 Dated: 20th December 2000 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.4 A (A) processes involving Halogens within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Automatically positioned to the address	A10SE (W)	104	1	435816 566122
44	Integrated Pollution Controls Name: Circ Realisations Ltd Location: Eldon Street, SOUTH SHIELDS, Tyne And Wear, NE33 5BU Authority: Environment Agency, North East Region Permit Reference: AR1914 Dated: 17th May 1995 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.4 A (A) processes involving Halogens within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Automatically positioned to the address	A10SE (W)	104	1	435816 566122
44	Integrated Pollution Controls Name: Circ Realisations Ltd Location: Eldon Street, SOUTH SHIELDS, Tyne And Wear, NE33 5BU Authority: Environment Agency, North East Region Permit Reference: AK3048 Dated: 5th November 1993 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.4 A (A) processes involving Halogens within the Chemical Industry Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Automatically positioned to the address	A10SE (W)	104	1	435816 566117
45	Integrated Pollution Controls Name: Tyne Dock Engineering Ltd Location: P O Box 7, Hill Street, SOUTH SHIELDS, Tyne And Wear, NE33 1RN Authority: Environment Agency, North East Region Permit Reference: AU6889 Dated: 11th September 1996 Process Type: IPC new application Description: 6.5 A (A) Coating processes and Printing within Miscellaneous Industries Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the road within the address or location	A10NE (NW)	189	1	435796 566466
45	Integrated Pollution Controls Name: Tyne Dock Engineering Ltd Location: Po Box 7 Hill Street, SOUTH SHIELDS, Tyne And Wear, NE33 1RN Authority: Environment Agency, North East Region Permit Reference: BD4295 Dated: 24th November 1998 Process Type: IPC minor (non-substantial) variation to previous variation Description: 6.5 A (A) Coating processes and Printing within Miscellaneous Industries Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the road within the address or location	A10NE (NW)	193	1	435796 566471

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
46	Integrated Pollution Controls Name: Tyne Dock Engineering Ltd Location: PO Box 7, Hill Street, SOUTH SHIELDS, Tyne and Wear, NE33 1RN Authority: Environment Agency, North East Region Permit Reference: BF5926 Dated: 1st March 2000 Process Type: IPC minor (non-substantial) variation to previous variation Description: 6.5 A (A) Coating processes and Printing within Miscellaneous Industries Status: Authorisation revokedRevoked Positional Accuracy: Manually positioned to the road within the address or location	A10NE (NW)	291	1	435718 566536
47	Local Authority Integrated Pollution Prevention And Control Name: Circatex Ltd Location: Eldon Street, South Shields, Tyne & Wear, NE33 5BU Authority: South Tyneside Metropolitan Borough Council, Environmental Health Department Permit Reference: 001/6.4(a) Dated: Not Supplied Process Type: Other Activities Description: Coating plastics Status: Application Not Yet Authorised Positional Accuracy: Manually positioned to the address or location	A10SE (W)	104	2	435816 566122
48	Local Authority Pollution Prevention and Controls Name: Circatex Ltd Location: Eldon Street, SOUTH SHIELDS, Tyne and Wear, NE33 5BU Authority: South Tyneside Metropolitan Borough Council, Environmental Health Department Permit Reference: 001/6.4(A) Dated: 22nd February 1999 Process Type: Local Authority Pollution Prevention and Control Description: PG6/23 Coating of metal and plastic Status: Transferred to LAIPPC Positional Accuracy: Automatically positioned to the address	A10SE (W)	104	2	435816 566122
49	Local Authority Pollution Prevention and Controls Name: Tyne Auto Bodies Location: Hill Street, Commercial Road, SOUTH SHIELDS, Tyne and Wear, NE33 1RW Authority: South Tyneside Metropolitan Borough Council, Environmental Health Department Permit Reference: 029/6.4(B) Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG6/34 Respraying of road vehicles Status: Authorisation revokedRevoked Positional Accuracy: Manually positioned to the road within the address or location	A10SE (NW)	147	2	435842 566443
50	Local Authority Pollution Prevention and Controls Name: Jennings Accident Repair Centre Location: Commercial Road, SOUTH SHIELDS, Tyne and Wear, NE33 1RW Authority: South Tyneside Metropolitan Borough Council, Environmental Health Department Permit Reference: 015/6.5(b) Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG6/34 Respraying of road vehicles Status: Authorisation certificate surrendered by operatorSurrendered Positional Accuracy: Automatically positioned to the address	A10SE (NW)	157	2	435790 566421
51	Local Authority Pollution Prevention and Controls Name: Mcnulty Offshore Constuction Ltd Location: Commercial Road, SOUTH SHIELDS, Tyne and Wear, NE33 1RZ Authority: South Tyneside Metropolitan Borough Council, Environmental Health Department Permit Reference: PPC/08/3 Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG6/23 Coating of metal and plastic Status: Permitted Positional Accuracy: Located by supplier to within 100m	A10NE (N)	226	2	435887 566533
52	Local Authority Pollution Prevention and Controls Name: Be Modern Ltd Location: Western Approach, SOUTH SHIELDS, Tyne and Wear, NE33 5QZ Authority: South Tyneside Metropolitan Borough Council, Environmental Health Department Permit Reference: PPC/08/13 Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG6/2 Manufacture of timber and wood-based products Status: Permitted Positional Accuracy: Automatically positioned to the address	A11NW (NE)	252	2	436184 566472

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
52	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Be Modern Ltd Location: Western Approach, SOUTH SHIELDS, Tyne and Wear, NE33 5QZ Authority: South Tyneside Metropolitan Borough Council, Environmental Health Department Permit Reference: PPC/08/13 Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG1/12 Combustion of fuel manufactured from/or comprised of, solid waste in appliances between 0.4-3MW thermal input Status: Permitted Positional Accuracy: Automatically positioned to the address</p>	A11NW (NE)	252	2	436184 566472
53	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Reg Vardy Plc Location: Tudor Road, SOUTH SHIELDS, Tyne and Wear, NE33 4PQ Authority: South Tyneside Metropolitan Borough Council, Environmental Health Department Permit Reference: 021/6.5(B) Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG6/34 Respraying of road vehicles Status: Authorisation revokedRevoked Positional Accuracy: Manually positioned to the address or location</p>	A11NW (N)	262	2	436124 566512
54	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: J R Selby Location: Commercial Road, SOUTH SHIELDS, Tyne and Wear, NE33 1RQ Authority: South Tyneside Metropolitan Borough Council, Environmental Health Department Permit Reference: 028/6.5(B) Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG6/34 Respraying of road vehicles Status: Authorisation revokedRevoked Positional Accuracy: Manually positioned to the address or location</p>	A10NE (N)	344	2	435951 566647
55	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: C W Taylor & Son Location: Templetown, Commercial Road, SOUTH SHIELDS, Tyne and Wear, NE33 5SE Authority: South Tyneside Metropolitan Borough Council, Environmental Health Department Permit Reference: 007/2.1(A) Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG2/4 Iron, steel and non-ferrous metal foundry processes Status: Authorised Positional Accuracy: Manually positioned to the address or location</p>	A6SW (SW)	390	2	435590 566766
56	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Posh Wash North East Ltd Location: 168 Sunderland Road, South Shields, Ne33 4hn Authority: South Tyneside Metropolitan Borough Council, Environmental Health Department Permit Reference: 052/7/PtB Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning Status: Permitted Positional Accuracy: Located by supplier to within 100m</p>	A11SE (E)	404	2	436500 566200
57	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Dean Clean Location: 174 Dean Road, South Shields, Ne33 4aq Authority: South Tyneside Metropolitan Borough Council, Environmental Health Department Permit Reference: 052/7/PtB Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning Status: Permitted Positional Accuracy: Located by supplier to within 100m</p>	A7NE (E)	410	2	436500 565900

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
58	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Port Of Tyne Authority Location: Tyne Coal Terminal, Tyne Dock, SOUTH SHIELDS, NE34 0AB Authority: South Tyneside Metropolitan Borough Council, Environmental Health Department Permit Reference: STC/011/3.4(B) Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG3/5 Coal, coke and coal product processes Status: Permitted Positional Accuracy: Manually positioned to the address or location</p>	A6SW (SW)	627	2	435361 565699
59	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Town Hall Service Station Location: Crossgate, SOUTH SHIELDS, Tyne and Wear, NE33 5QX Authority: South Tyneside Metropolitan Borough Council, Environmental Health Department Permit Reference: 005/1.2(d)/PtB Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station Status: Permitted Positional Accuracy: Manually positioned to the address or location</p>	A15SE (NE)	721	2	436506 566814
60	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Tarmac Quarry Products (Eastern) Ltd Location: West Side, Tyne Dock, SOUTH SHIELDS, NE34 9PL Authority: South Tyneside Metropolitan Borough Council, Environmental Health Department Permit Reference: 034/3.5(E) Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG3/15 Mineral drying and roadstone coating processes Status: Permitted Positional Accuracy: Manually positioned to the address or location</p>	A5NE (W)	754	2	435200 565800
61	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Sutherlands Location: Coronation Street, SOUTH SHIELDS, Tyne and Wear, NE33 1AS Authority: South Tyneside Metropolitan Borough Council, Environmental Health Department Permit Reference: 070/1.4(B) Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station Status: Application Not Yet Authorised Positional Accuracy: Manually positioned to the road within the address or location</p>	A15SW (N)	756	2	436162 567017
62	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Lynch Motors Ltd Location: West Way, SOUTH SHIELDS, Tyne and Wear, NE33 4SR Authority: South Tyneside Metropolitan Borough Council, Environmental Health Department Permit Reference: 055/1.4(B) Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station Status: Application Not Yet Authorised Positional Accuracy: Automatically positioned to the address</p>	A3NW (S)	770	2	436105 565148
63	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Streamline Garages Ltd Location: Franklin Street, SOUTH SHIELDS, Tyne and Wear, NE33 Authority: South Tyneside Metropolitan Borough Council, Environmental Health Department Permit Reference: 0.48/6.5(b) Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG6/34 Respraying of road vehicles Status: Authorised Positional Accuracy: Manually positioned to the road within the address or location</p>	A15SE (NE)	822	2	436425 566991
64	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Edmund Robson & Co Location: West Side, Tyne Dock, SOUTH SHIELDS, Tyne and Wear, NE34 9PJ Authority: South Tyneside Metropolitan Borough Council, Environmental Health Department Permit Reference: 037/6.6(A) Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG6/2 Manufacture of timber and wood-based products Status: Permitted Positional Accuracy: Manually positioned to the address or location</p>	A5SE (W)	969	2	435001 565701

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Nearest Surface Water Feature	A10NW (NW)	333	-	435598 566451
65	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Surface Water Outfall Location: SOUTH SHIELDS, Tyne And Wear Authority: Environment Agency, North East Region Pollutant: Chemicals - Acid Note: Pollution Found; No Fish Killed Incident Date: 1st October 1996 Incident Reference: NT960270 Catchment Area: Lower Tyne Receiving Water: Coastal Water Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A10SE (N)	0	1	436000 566200
66	Pollution Incidents to Controlled Waters Property Type: Miscellaneous Premises: Unknown Location: Jarrow / South Shields Authority: Environment Agency, North East Region Pollutant: Not Given Note: River Tyne Incident Date: 23rd May 1992 Incident Reference: 235/001314 Catchment Area: Not Given Receiving Water: Saline Estuary Cause of Incident: Other Oil Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A10NW (NW)	355	1	435600 566500
67	Pollution Incidents to Controlled Waters Property Type: Other General Premises Location: River Tyne, Royal Keys Development Shields Authority: Environment Agency, North East Region Pollutant: Other Sewage Note: No Fish Killed Incident Date: 29th August 1995 Incident Reference: NT950184 Catchment Area: Lower Tyne Receiving Water: Saline Estuary Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A10NW (NW)	418	1	435600 566600
68	Pollution Incidents to Controlled Waters Property Type: Vessel Location: West Dock Authority: Environment Agency, North East Region Pollutant: Not Given Note: Tyne Tidal Incident Date: 29th September 1993 Incident Reference: 235/002126 Catchment Area: Not Given Receiving Water: Saline Estuary Cause of Incident: Oil Boat/Ship Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A14SE (NW)	526	1	435700 566795
68	Pollution Incidents to Controlled Waters Property Type: Other General Premises Location: SOUTH SHIELDS Authority: Environment Agency, North East Region Pollutant: Not Given Note: Tyne Incident Date: 7th September 1992 Incident Reference: 235/001507 Catchment Area: Not Given Receiving Water: No Pollution Cause of Incident: Other Cause Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SE (NW)	531	1	435700 566800

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
69	Pollution Incidents to Controlled Waters Property Type: Other General Premises Location: Albert Edward Dock, NORTH SHIELDS Authority: Environment Agency, North East Region Pollutant: Oils - Other Oil Note: No Fish Killed Incident Date: 16th January 1996 Incident Reference: NT960020 Catchment Area: Lower Tyne Receiving Water: Saline Estuary Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9SE (W)	598	1	435300 566300
69	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Albert Edward Dock, NORTH SHIELDS Authority: Environment Agency, North East Region Pollutant: Oils - Other Oil Note: Pollution Found; No Fish Killed Incident Date: 16th January 1996 Incident Reference: NT960020 Catchment Area: Lower Tyne Receiving Water: Saline Estuary Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9SE (W)	598	1	435300 566295
70	Pollution Incidents to Controlled Waters Property Type: Miscellaneous Premises: Unknown Location: St Pauls Church, JARROW Authority: Environment Agency, North East Region Pollutant: Not Given Note: Don Estuary Incident Date: 24th June 1994 Incident Reference: 235/002387 Catchment Area: Not Given Receiving Water: Freshwater Stream/River Cause of Incident: Other Oil Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A2NE (S)	624	1	436000 565300
71	Pollution Incidents to Controlled Waters Property Type: Other General Premises Location: Albert Edward Dock, NORTH SHIELDS Authority: Environment Agency, North East Region Pollutant: Miscellaneous - Other Note: No Fish Killed Incident Date: 11th September 1995 Incident Reference: NT950180 Catchment Area: Lower Tyne Receiving Water: Saline Estuary Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A10NW (NW)	634	1	435400 566700
72	Pollution Incidents to Controlled Waters Property Type: Surface Water Sewers Location: Tyne Dock S/S Authority: Environment Agency, North East Region Pollutant: Not Given Note: Tyne Incident Date: 1st November 1990 Incident Reference: 235/000359 Catchment Area: Not Given Receiving Water: Freshwater Stream/River Cause of Incident: Unknown Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A6SW (SW)	637	1	435400 565600
73	Pollution Incidents to Controlled Waters Property Type: Demolition Location: Quayside Of Albert Edward Dock, NORTH SHIELDS Authority: Environment Agency, North East Region Pollutant: Oils - Black Fuel Oil Note: Pollution Found; No Fish Killed Incident Date: 18th September 1996 Incident Reference: NT960259 Catchment Area: Lower Tyne Receiving Water: Saline Estuary Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (NW)	697	1	435400 566795

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
73	Pollution Incidents to Controlled Waters Property Type: Vessel Location: Adjacent Albert Edward Dock Authority: Environment Agency, North East Region Pollutant: Not Given Note: Tyne Estuary Incident Date: 3rd November 1990 Incident Reference: 235/000362 Catchment Area: Not Given Receiving Water: Saline Estuary Cause of Incident: Oil Boat/Ship Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (NW)	700	1	435400 566800
74	Pollution Incidents to Controlled Waters Property Type: Other General Premises Location: SOUTH SHIELDS Authority: Environment Agency, North East Region Pollutant: Not Given Note: Tyne Est Incident Date: 2nd September 1990 Incident Reference: 235/000280 Catchment Area: Not Given Receiving Water: Saline Estuary Cause of Incident: Sewage - Other Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A14SE (N)	700	1	435800 567000
75	Pollution Incidents to Controlled Waters Property Type: Contaminated Land Location: Downstream Of Don Estuary, River Tyne Authority: Environment Agency, North East Region Pollutant: Oils - Gas Oil Note: Pollution Found; No Fish Killed Incident Date: 11th March 1996 Incident Reference: NT960052 Catchment Area: Lower Tyne Receiving Water: Saline Estuary Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9SE (W)	704	1	435200 566400
76	Pollution Incidents to Controlled Waters Property Type: Other General Premises Location: Albert Edward Dock, NORTH SHIELDS Authority: Environment Agency, North East Region Pollutant: Miscellaneous - Other Note: No Fish Killed Incident Date: 5th September 1995 Incident Reference: NT950183 Catchment Area: Lower Tyne Receiving Water: Saline Estuary Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (NW)	774	1	435400 566900
77	Pollution Incidents to Controlled Waters Property Type: Vessel Location: S Shields Ferry Landing Authority: Environment Agency, North East Region Pollutant: Not Given Note: Tyne Estuary Incident Date: 28th February 1992 Incident Reference: 235/001126 Catchment Area: Not Given Receiving Water: Saline Estuary Cause of Incident: Oil Boat/Ship Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A14NE (N)	898	1	435800 567200
78	Pollution Incidents to Controlled Waters Property Type: Other General Premises Location: SOUTH SHIELDS Authority: Environment Agency, North East Region Pollutant: Not Given Note: Tyne Estuary Incident Date: 23rd October 1992 Incident Reference: 235/001584 Catchment Area: Not Given Receiving Water: Saline Estuary Cause of Incident: Oil General Spillage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (N)	998	1	435800 567300

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
79	Prosecutions Relating to Authorised Processes Location: Eldon Street, South Shield, NEWCASTLE, Tyne & Wear, NE33 5BY Prosecution Text: EA News Release 13/06/1997, Failure to ensure the proper disposal of waste from the business. Prosecution Act: EPA90 Hearing Date: 13th June 1997 Verdict: Guilty Fine: 2400 Costs: 3202 Positional Accuracy: Manually positioned to the road within the address or location	A10SE (NW)	3	1	435909 566188
80	Registered Radioactive Substances Name: Mcnulty Offshore Construction Ltd Location: Commercial Road, South Shields, SOUTH SHIELDS, Tyne And Wear, NE33 1RZ Authority: Environment Agency, North East Region Permit Reference: CC7412 Dated: 2nd September 2008 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA Status: Application has been authorised and any conditions apply to the operatorAuthorised Positional Accuracy: Manually positioned to the road within the address or location	A10NE (N)	345	1	435953 566648
81	Registered Radioactive Substances Name: Aker Mcnulty Location: Commercial Road, South Shields, SOUTH SHIELDS, Tyne And Wear, NE33 1RZ Authority: Environment Agency, North East Region Permit Reference: AY4187 Dated: 12th June 1997 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Unknown	A10SW (W)	361	1	435555 566134
82	Registered Radioactive Substances Name: Aker Mcnulty Location: Commercial Road, South Shields, SOUTH SHIELDS, Tyne And Wear, NE33 1RZ Authority: Environment Agency, North East Region Permit Reference: AZ3461 Dated: 25th July 1997 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA Status: Authorisation either revoked or cancelledCancelled Positional Accuracy: Unknown	A15SW (N)	722	1	436100 567000
83	Substantiated Pollution Incident Register Authority: Environment Agency - North East Region, North East Area Incident Date: 20th April 2006 Incident Reference: 392016 Water Impact: Category 4 - No Impact Air Impact: Category 4 - No Impact Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Inert Materials And Wastes: Soils And Clay Pollutant: Specific Waste Materials: Commercial Waste Pollutant: Specific Waste Materials: Contaminated Construction & Demolition Material & Waste Pollutant: Specific Waste Materials: Metal Wastes	A6SW (SW)	448	1	435623 565621
	Water Abstractions Operator: Port Of Tyne Licence Number: Ne/023/0003/004 Permit Version: 1 Location: Port Of Tyne Authority: Environment Agency, North East Region Abstraction: Other Industrial/Commercial/Public Services: Dust Suppression Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 6th January 2011 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(W)	1477	1	434488 565673

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulnerability Soil Classification: Soils of High Leaching Potential (U) - Soil information for restored mineral workings and urban areas is based on fewer observations than elsewhere. A worst case vulnerability classification (H) assumed, until proved otherwise Map Sheet: Sheet 5 Tyne and Tees Scale: 1:100,000	A6NE (N)	0	1	435995 566108
	Drift Deposits Drift Deposit: Low permeability drift deposits occurring at the surface and overlying Major and Minor Aquifers are head, clay-with-flints, brickearth, peat, river terrace deposits and marine and estuarine alluvium Map Sheet: Sheet 5 Tyne and Tees Scale: 1:100,000	A6NE (N)	0	1	435995 566108
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A6NE (N)	0	3	435995 566108
	Superficial Aquifer Designations Aquifer Designation: Unproductive Strata	A6NE (N)	0	3	435995 566108
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Boundary Accuracy: As Supplied	A10SE (NW)	211	1	435733 566438
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Boundary Accuracy: As Supplied	A10SE (NW)	220	1	435709 566426
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
84	BGS Recorded Landfill Sites Site Name: Tyne Dock Location: SOUTH SHIELDS, Tyne & Wear Authority: British Geological Survey, National Geoscience Information Service Ground Water: Threat to ground water Surface Water: Threat to surface water Geology: N/A Positional Accuracy: Positioned by the supplier Boundary Accuracy: Good	A2NW (SW)	952	3	435384 565165
85	Historical Landfill Sites Licence Holder: West Dock Location: Commercial Road, South Shields, Costerphine Town, Tyne & Wear Name: West Dock Operator Location: Commercial Road, South Shields, Costerphine Town, Tyne & Wear Boundary Accuracy: As Supplied Provider Reference: EAHLD35707 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste: Not Supplied Type: EA Waste Ref: 67611 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: Not Supplied Other Ref: Not Supplied	A10SW (NW)	249	1	435651 566382
86	Historical Landfill Sites Licence Holder: Borough Of South Tyneside Location: Laygate, South Shield, Tyne and Wear Name: West Holborn Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD06264 First Input Date: 1st March 1983 Last Input Date: 31st March 1983 Specified Waste: Not Supplied Type: EA Waste Ref: 0 Regis Ref: YO1/L/BOR015 WRC Ref: 4500/0293 BGS Ref: Not Supplied Other Ref: TW 104 ST, ST 038	A10SW (NW)	258	1	435659 566406
87	Historical Landfill Sites Licence Holder: Port Of Tyne Authority Location: Tyne Dock, South Shields, Tyne and Wear Name: Tyne Dock Landfill Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD06266 First Input Date: 31st December 1994 Last Input Date: Not Supplied Specified Waste: Deposited Waste included Inert Waste Type: EA Waste Ref: 67586 Regis Ref: TWR/L/POR001 WRC Ref: 4500/0019 BGS Ref: Not Supplied Other Ref: TW 428 ST, ST 046	A6SW (SW)	653	1	435355 565648
88	Historical Landfill Sites Licence Holder: Borough Of South Tyneside Location: South Shield, Tyne and Wear Name: Westway Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD06270 First Input Date: 31st December 1982 Last Input Date: 31st December 1983 Specified Waste: Deposited Waste included Inert Waste Type: EA Waste Ref: 0 Regis Ref: YO1/L/BOR017 WRC Ref: 4500/0294 BGS Ref: Not Supplied Other Ref: TW 106 ST, ST 036	A2NE (S)	749	1	435840 565194

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
89	Historical Landfill Sites Licence Holder: Port Of Tyne Authority Location: South Shield, Tyne and Wear Name: Tyne Dock No.3 Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD06267 First Input Date: 30th June 1983 Last Input Date: 31st December 1987 Specified Waste: Deposited Waste included Inert, Industrial, Commercial and Household Waste Type: EA Waste Ref: 0 Regis Ref: YO1/L/POR004 WRC Ref: 4500/0102 BGS Ref: Not Supplied Other Ref: TW 107 ST, ST 035	A2NW (SW)	789	1	435358 565405
90	Historical Landfill Sites Licence Holder: Port Of Tyne Authority Location: Tyne Dock, South Shield, Tyne and Wear Name: Tyne Dock Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD06268 First Input Date: 22nd July 1977 Last Input Date: 31st December 1993 Specified Waste: Deposited Waste included Inert, Industrial, Commercial and Household Waste Type: EA Waste Ref: 0 Regis Ref: YO1/L/POR001 WRC Ref: 4500/0032 BGS Ref: Not Supplied Other Ref: ST 014, TW 024 ST	A2NW (SW)	789	1	435358 565405
91	Historical Landfill Sites Licence Holder: Port Of Tyne Authority Location: South Shield, Tyne and Wear Name: Tyne Dock Extension Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD06269 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste: Deposited Waste included Inert, Industrial, Commercial and Household Waste Type: EA Waste Ref: 0 Regis Ref: YO1/L/POR003 WRC Ref: Not Supplied BGS Ref: Not Supplied Other Ref: TW 062 ST, ST 010	A2NW (SW)	789	1	435358 565405
92	Historical Landfill Sites Licence Holder: Not Supplied Location: Olive Street, West Harton Name: Olive Street Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD06271 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste: Not Supplied Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: Not Supplied Other Ref: ST 033	A3SW (S)	866	1	436053 565052
93	Historical Landfill Sites Licence Holder: Not Supplied Location: South Shields, Tyne and Wear Name: Port of Tyne Authority Operator Location: Bewick Street, Newcastle-Upon-Tyne Boundary Accuracy: As Supplied Provider Reference: EAHLD31785 First Input Date: 30th November 1969 Last Input Date: 31st January 1972 Specified Waste: Not Supplied Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: 305 Other Ref: Not Supplied	A2NW (SW)	952	1	435384 565165

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
94	<p>Licensed Waste Management Facilities (Landfill Boundaries)</p> <p>Name: Aker Mc Nulty Ltd Licence Number: 67611 Location: West Dock, Commercial Road, Costerphine Town, South Shields, Tyne & Wear, NE33 1RZ Licence Holder: Aker Mc Nulty Ltd Authority: Environment Agency - North East Region, North East Area Site Category: Landfills Taking Non-biodegradeable Wastes (Not Construction) Max Input Rate: Not Supplied Licence Status: Inactive Issued: 25th July 1997 Positional Accuracy: Positioned by the supplier Boundary Accuracy: As Supplied</p>	A10SW (NW)	249	1	435652 566382
95	<p>Licensed Waste Management Facilities (Landfill Boundaries)</p> <p>Name: Tyne Dock Landfill Site Licence Number: 67586 Location: Tyne Dock, South Shields, Tyne & Wear, NE1 5HS Licence Holder: Port Of Tyne Authority Authority: Environment Agency - North East Region, Northumbria Area Site Category: Landfills Taking Non-biodegradeable Wastes (Not Construction) Max Input Rate: Large (Equal to or greater than 75,000 tonnes per year) Licence Status: Inactive Issued: 3rd June 1994 Positional Accuracy: Positioned by the supplier Boundary Accuracy: As Supplied</p>	A6SW (SW)	650	1	435357 56651
96	<p>Licensed Waste Management Facilities (Locations)</p> <p>Licence Number: 67498 Location: 111 Chichester Road, South Shields, Tyne & Wear, NE33 4HE Operator Name: Arthurs Raymond Operator Location: Not Supplied Authority: Environment Agency - North East Region, North East Area Site Category: Metal Recycling Sites (Mixed) Licence Status: Surrendered Issued: 23rd February 1992 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 23rd December 1994 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A7NE (E)	385	1	436500 566100
97	<p>Licensed Waste Management Facilities (Locations)</p> <p>Licence Number: 67552 Location: 3 Cone Street, South Shields, Tyne & Wear, NE33 1RE Operator Name: K J Baker & P Baker Operator Location: Not Supplied Authority: Environment Agency - North East Region, North East Area Site Category: Metal Recycling Sites (Mixed) Licence Status: Surrendered Issued: 27th January 1994 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 29th March 2006 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A10NE (N)	405	1	435800 566700
98	<p>Licensed Waste Management Facilities (Locations)</p> <p>Licence Number: 67611 Location: West Dock, Commercial Road, Costerphine Town, South Shields, Tyne & Wear, NE33 1RZ Operator Name: Aker Mc Nulty Ltd Operator Location: Not Supplied Authority: Environment Agency - North East Region, North East Area Site Category: Landfills Taking Non-biodegradeable Wastes (Not Construction) Licence Status: Expired Issued: 25th July 1997 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A10SW (W)	406	1	435500 566200

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
99	<p>Licensed Waste Management Facilities (Locations)</p> <p>Licence Number: 67499 Location: Cumberland House, Mitre Place, Templetown, South Shields, Tyne & Wear, NE33 5BX Operator Name: G D Metal Recycling Ltd Operator Location: Albert Works, Kenninghall Road, Edmonton, London, N18 2PD Authority: Environment Agency - North East Region, Northumbria Area Site Category: Metal Recycling Sites (Mixed) Licence Status: Transferred Issued: 29th March 1992 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A6SW (SW)	479	1	435600 565600
99	<p>Licensed Waste Management Facilities (Locations)</p> <p>Licence Number: 67499 Location: Cumberland House, Mitre Place, Templetown, South Shields, Tyne & Wear, NE33 5TB Operator Name: Van Dalen U K Ltd Operator Location: Not Supplied Authority: Environment Agency - North East Region, North East Area Site Category: Metal Recycling Sites (Mixed) Licence Status: Transferred Issued: 29th March 1992 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A6SW (SW)	479	1	435600 565600
100	<p>Licensed Waste Management Facilities (Locations)</p> <p>Licence Number: 67516 Location: 3 Mitre Place , Templetown, South Shields, Tyne & Wear, NE33 5TB Operator Name: Birbeck James Operator Location: 6 , Cleadon Village, Sunderland, Tyne & Wear, SR6 7PW Authority: Environment Agency - North East Region, Northumbria Area Site Category: Metal Recycling Sites (Vehicle Dismantlers) Licence Status: Modified Issued: 21st April 1994 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A6SW (SW)	554	1	435600 565500
100	<p>Licensed Waste Management Facilities (Locations)</p> <p>Licence Number: 67516 Location: Land/premises At, Mitre Place, Templetown, South Shields, Tyne & Wear, NE33 5TB Operator Name: Sweeting Neil Operator Location: Not Supplied Authority: Environment Agency - North East Region, North East Area Site Category: Metal Recycling Sites (Vehicle Dismantlers) Licence Status: Transferred Issued: 21st April 1994 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A6SW (SW)	554	1	435600 565500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
101	<p>Licensed Waste Management Facilities (Locations)</p> <p>Licence Number: 0 Location: Unit 4, Evans Road, Templetown, South Shields, Tyne & Wear, NE33 5SH Operator Name: Partco Autoparts Ltd Operator Location: Lea Francis House, Station Road, Balsall Common, Coventry, West Midlands, CV7 7FD Authority: Environment Agency - North East Region, Northumbria Area Site Category: Special Waste Transfer Stations Licence Status: Surrendered Issued: 3rd August 1992 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 31st March 1994 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m</p>	A6SW (SW)	588	1	435610 565450
101	<p>Licensed Waste Management Facilities (Locations)</p> <p>Licence Number: 64425 Location: Unit 4, Evans Road, Templetown, South Shields, Tyne & Wear, NE33 5SH Operator Name: Partco Autoparts Ltd Operator Location: Not Supplied Authority: Environment Agency - North East Region, North East Area Site Category: Special Waste Transfer Stations Licence Status: Surrendered Issued: 3rd August 1992 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 31st March 1994 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m</p>	A6SW (SW)	588	1	435610 565450
102	<p>Licensed Waste Management Facilities (Locations)</p> <p>Licence Number: 67602 Location: Royal Quays - Ballast Hill, Dock Road, North Shields, Tyne & Wear, NE29 6EH Operator Name: Edmund Nuttall Ltd Operator Location: Not Supplied Authority: Environment Agency - North East Region, North East Area Site Category: Transfer Stations Taking Non-biodegradable Wastes Licence Status: Surrendered Issued: 7th June 1996 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 4th June 1998 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A9NE (NW)	715	1	435300 566700
103	<p>Licensed Waste Management Facilities (Locations)</p> <p>Licence Number: 67536 Location: Oyston Street, South Shields, Tyne & Wear, NE33 1AT Operator Name: Woodward David Operator Location: Not Supplied Authority: Environment Agency - North East Region, North East Area Site Category: Metal Recycling Sites (Mixed) Licence Status: Surrendered Issued: 27th April 1995 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 8th February 2002 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A15SW (N)	722	1	436100 567000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
104	Licensed Waste Management Facilities (Locations) Licence Number: 67586 Location: Tyne Dock, South Shields, Tyne & Wear, NE1 5HS Operator Name: Port of Tyne Authority Operator Location: Not Supplied Authority: Environment Agency - North East Region, North East Area Site Category: Landfills Taking Non-biodegradeable Wastes (Not Construction) Licence Status: Surrendered Issued: 3rd June 1994 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 14th June 2005 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m	A5SE (SW)	775	1	435300 565500
105	Licensed Waste Management Facilities (Locations) Licence Number: 300004 Location: Navigation House, Tyne Dock, South Shields, Tyne & Wear, NE34 0AB Operator Name: Sivex Engineering Ltd Operator Location: Not Supplied Authority: Environment Agency - North East Region, North East Area Site Category: Mobile Plant Licence Status: Issued Issued: 8th January 2008 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Manually positioned to the address or location	A2SW (S)	926	1	435608 565072
	Local Authority Landfill Coverage Name: South Tyneside Metropolitan Borough Council - Has no landfill data to supply		0	5	435995 566108
	Local Authority Landfill Coverage Name: North Tyneside Metropolitan District Council - Has supplied landfill data		516	8	435398 566473
106	Registered Landfill Sites Licence Holder: South Tyneside Borough Council Licence Reference: TW 104 ST Site Location: Old Electricity Works, West Holburn, Laygate, South Shields, Tyne And Wear Licence Easting: 435650 Licence Northing: 566400 Operator Location: Town Hall, South Shields, Tyne And Wear Authority: Environment Agency - North East Region, Northumbria Area Site Category: Landfill Max Input Rate: Very Large (Equal to or greater than 250,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Status: Licence known to be surrenderedSurrendered Dated: 23rd February 1983 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Max.Waste Permitted By Licence Rock From Clay Substratum Tyne And Wear C -Rubble Tyne And Wear Di -Coh.Inorg Tyne And Wear Dii -Coh.Inorg Tyne And Wear E -Fric.Inorg	A10SW (NW)	265	1	435650 566400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
107	<p>Registered Landfill Sites</p> <p>Licence Holder: Aber Mc Nulty Ltd Licence Reference: TW 470 ST Site Location: West Dock, Commercial Road, Corstophine, Sunderland, Tyne And Wear Licence Easting: 435500 Licence Northing: 566200 Operator Location: Commercial Road, SOUTH SHIELDS, Tyne and Wear, NE33 1RZ Authority: Environment Agency - North East Region, Northumbria Area Site Category: Landfill - with treatment Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Status: Site Closed Dated: 25th July 1997 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Brick, Rock, Broken Concrete, Plaster Constr'N/Demol./Excav. Waste Comprisin Slate, Tiles Sub/Topsoil, Sand, Clay, Shale Total Waste Permitted By Licence Prohibited Waste: Biodegradable Waste Contaminated Waste Spec.Waste (Epa'90:S62/1996 Regs) Steel Timber, Board Waste N.O.S.</p>	A10SW (W)	406	1	435500 566200
108	<p>Registered Landfill Sites</p> <p>Licence Holder: Edmund Nuttall Ltd Licence Reference: TW 459 NT Site Location: Albert Edward Dock, Royal Quays Development, North Shields, Tyne And Wear Licence Easting: 435300 Licence Northing: 566700 Operator Location: 1 Eagle House, Newcastle Business Park, NEWCASTLE UPON TYNE, Tyne and Wear, NE4 7LN Authority: Environment Agency - North East Region, Northumbria Area Site Category: Landfill Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Status: Licence known to be surrenderedSurrendered Dated: 7th June 1996 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Approximate location provided by supplier Boundary Accuracy: Not Applicable Authorised Waste: Clean Concrete, Brick Hardcore, Stone Max.Waste Permitted By Licence Prohibited Waste: Biodegradable Waste Combustible Waste Potentially Polluting Waste Spec.Waste (Epa'90:S62/1996 Regs) Waste N.O.S.</p>	A10NW (NW)	615	1	435377 566636

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
109	<p>Registered Landfill Sites</p> <p>Licence Holder: Port Of Tyne Authority Licence Reference: TW 428 ST Site Location: Tyne Dock Landfill Site, South Shields, Tyne And Wear Licence Easting: 435300 Licence Northing: 565500 Operator Location: Bewick Street, NEWCASTLE UPON TYNE, Tyne and Wear, NE1 5HS Authority: Environment Agency - North East Region, Northumbria Area Site Category: Landfill Max Input Rate: Very Large (Equal to or greater than 250,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Status: Site not yet started Dated: 3rd June 1994 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Brick,Broken Conc',Plaster,Slate,Tile Max.Waste Permitted By Licence Sub/Topsail,Sand,Clay,Shale,Rock Prohibited Waste: Asbestos Oils & Tars At > 0.1% W/W Readily Biodegradable Waste Spec.Waste (Epa'90:S62/1996 Regs) Steel Timber, Board Toxic Metal Compounds Waste Cont. Phenols At > 1 Ppm Waste Cont. Sulphate At > 0.2%W/W Waste Cont. Sulphide At > 10 Ppm Waste Cont. Total Cyanide At > 5 Ppm</p>	A5SE (SW)	775	1	435300 565500
110	<p>Registered Landfill Sites</p> <p>Licence Holder: Borough Of South Tyneside Licence Reference: TW 106 ST Site Location: West Way / Woodside Way, South Shields, Tyne And Wear Licence Easting: 435850 Licence Northing: 565150 Operator Location: As Site Address Authority: Environment Agency - North East Region, Northumbria Area Site Category: Landfill Max Input Rate: Very Large (Equal to or greater than 250,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Status: Licence known to be surrenderedSurrendered Dated: 23rd February 1983 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Max.Waste Permitted By Licence-States Rock Tyne And Wear C -Rubble * Tyne And Wear Di -Coh.Inorg * Tyne And Wear Dii -Coh.Inorg * Tyne And Wear E -Frict.Inorg *</p>	A2NE (S)	792	1	435850 565150

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
111	<p>Registered Waste Transfer Sites</p> <p>Licence Holder: Partco Autoparts Ltd Licence Reference: TW 300 SL Site Location: Unit 4 Evans Road, Templeton, SOUTH SHIELDS, Tyne and Wear, NE33 5SH Operator Location: Lea Francis House, Station Road, Balsall Common, COVENTRY, West Midlands, CV7 7FD Authority: Environment Agency - North East Region, Northumbria Area Site Category: Transfer Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Licence known to be surrenderedSurrendered Dated: 3rd August 1992 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: And Thinners Max.Storage In Licence: Waste Cellulose Paint Prohibited Waste: Waste N.O.S.</p>	A6SW (SW)	554	1	435600 565500
112	<p>Registered Waste Treatment or Disposal Sites</p> <p>Licence Holder: K J & P Baker t/a Baker Bros Licence Reference: TW 362 ST Site Location: 3 Cone Street, SOUTH SHIELDS, Tyne and Wear, NE33 1RE Operator Location: As Site Address Authority: Environment Agency - North East Region, Northumbria Area Site Category: Scrapyard Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Operational as far as is knownOperational Dated: 20th December 2000 Preceded By: TW 362 ST Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Maximum Waste Permitted By Licence Metal Waste/Scrap Metal (As In Post'98 E.A.Lics And Equivalent To 23.00.00) Motor Vehicle Batteries Prohibited Waste: Degradable Household/Commercial/Industrial Waste (As In Post'98 E.A.Lics And Equivalent To 22.09.00) Inert Materials (As In Post'98 E.A.Lics And Equivalent To 21.00.00) Other Waste/Waste Not Otherwise Specified Special Waste (As In Epa 1990:S62 Of 1996 Regs) Not Otherwise Specified</p>	A10NE (N)	373	1	435900 566680
112	<p>Registered Waste Treatment or Disposal Sites</p> <p>Licence Holder: K J & P Baker t/a Baker Bros Licence Reference: TW 362 ST Site Location: 3 Cone Street, SOUTH SHIELDS, Tyne and Wear, NE33 1RE Operator Location: As Site Address Authority: Environment Agency - North East Region, Northumbria Area Site Category: Scrapyard Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Record supersededSuperseded Dated: 27th January 1994 Preceded By: Not Given Licence: Superseded By: TW 362 ST Licence: Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Scrap Metal As In S.M.Dealers Act'64 Prohibited Waste: Asbestos Clinical Wastes Flammable Solvents Liable To Cause Environmental Hazards Medical (Misuse Of Drugs Act '71) Percussive/Explosive/Similar Waste Poisonous, Noxious, Polluting Wastes Spec.Waste (Epa'90:S62/1996 Regs) Transf./Capacitors Assumed/Cont. Pcb Waste N.O.S.</p>	A10NE (N)	373	1	435900 566680

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
113	<p>Registered Waste Treatment or Disposal Sites</p> <p>Licence Holder: R Arthurs Licence Reference: TW 273 ST Site Location: Chichester Metals, 111 Chichester Road, SOUTH SHIELDS, Tyne and Wear, NE33 4HE</p> <p>Operator Location: 2 Dunnock Drive, Ayton, Washington, Tyne And Wear Authority: Environment Agency - North East Region, Northumbria Area Site Category: Scrapyard Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Licence known to be surrenderedSurrendered Dated: 23rd January 1992 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Asbestos Haz.Items Normally Assoc.With Vehicles Normally Less Than Oils Petrol Scrap Metal As In S.M.Dealers Act '64 Such As Batteries</p> <p>Prohibited Waste: Asbestos Capac'Rs/Transformers Cont. Pcb/Pct'S Clinical Wastes Flammable Solvents Liable To Cause Environmental Hazards Liquid/Sludge Wastes Medical (Misuse Of Drugs Act) Percussive/Explosive Waste Radioactive Wastes Special Wastes</p>	A11SE (E)	395	1	436500 566170
114	<p>Registered Waste Treatment or Disposal Sites</p> <p>Licence Holder: Charles Newton Ltd Charles Newton Scrapmetals Licence Reference: TW 275 ST Site Location: Cumberland House, Mitre Place, Templetown, SOUTH SHIELDS, Tyne and Wear, NE33 5BX</p> <p>Operator Location: As Site Address Authority: Environment Agency - North East Region, Northumbria Area Site Category: Scrapyard Max Input Rate: Small (Equal to or greater than 10,000 and less than 25,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Site Closed Dated: 23rd March 1992 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Asbestos Haz.Items Normally Assoc.With Vehicles Normally Less Than Oils Petrol Scrap Metal As In S.M.Dealers Act '64 Such As Batteries</p> <p>Prohibited Waste: Asbestos Capac'Rs/Transformers Cont. Pcb/Pct'S Clinical Wastes Flammable Solvents Liable To Cause Environmental Hazards Medical (Misuse Of Drugs Act) Percussive/Explosive Waste Radioactive Wastes Spec.Waste (Epa'90:S62/1996 Regs)</p>	A6SW (SW)	486	1	435600 565590

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
115	<p>Registered Waste Treatment or Disposal Sites</p> <p>Licence Holder: J Birbeck Licence Reference: TW 299 ST Site Location: Plot 3 Mitre Place, Templeton, SOUTH SHIELDS, Tyne and Wear, NE33 5TB Operator Location: 6 Heather Close, Cleadon Village, SUNDERLAND, Tyne and Wear, SR6 7PW Authority: Environment Agency - North East Region, Northumbria Area Site Category: Scrapyard Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Operational as far as is knownOperational Dated: 21st April 1994 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Approximate location provided by supplier Boundary Quality: Not Supplied Authorised Waste: Motor Vehicles & Assoc.Parts Prohibited Waste: Spec.Waste (Epa'90:S62/1996 Regs)N.O.S Waste N.O.S.</p>	A6SW (SW)	554	1	435600 565500
116	<p>Registered Waste Treatment or Disposal Sites</p> <p>Licence Holder: D Woodward Licence Reference: TW 340 ST Site Location: Old Gas Yard, Oyston Street, SOUTH SHIELDS, Tyne and Wear, NE33 1AT Operator Location: 108 Hardie Drive, WEST BOLDON, Tyne and Wear, NE36 0JL Authority: Environment Agency - North East Region, Northumbria Area Site Category: Scrapyard Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Operational as far as is knownOperational Dated: 27th April 1995 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Motor Vehicles & Assoc.Parts Prohibited Waste: Spec.Waste (Epa'90:S62/1996 Regs)N.O.S Waste N.O.S.</p>	A15SW (N)	711	1	436230 566950

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
117	<p>Control of Major Accident Hazards Sites (COMAH)</p> <p>Name: Transco Plc Location: South Shields Holder Station, Oyston Street, SOUTH SHIELDS, Tyne & Wear, NE33 1AT Reference: Not Supplied Type: Lower Tier Status: Record Ceased To Be Supplied Under COMAH Regulations Positional Accuracy: Manually positioned to the address or location</p>	A15SW (N)	768	4	436309 566984
118	<p>Notification of Installations Handling Hazardous Substances (NIHHS)</p> <p>Name: Transco. Location: Oyston Street, South Shields, Tyne & Wear, Ne33 1At Status: Active Positional Accuracy: Manually positioned to the address or location</p>	A15SW (N)	772	4	436316 566985
119	<p>Planning Hazardous Substance Consents</p> <p>Name: F Lakes & Son Location: Havelock Street, South Shields, Tyne & Wear, Ne33 5dz Authority: South Tyneside Metropolitan Borough Council, Planning Department Application Ref: St/Sc/92/04/Dm Hazardous Substance: Unknown at time of report Maximum Quantity: 25 Application date: 20th November 1992 Decision: New application refusedRefused Positional Accuracy: Manually positioned to the road within the address or location</p>	A10SE (NW)	82	5	435829 566185
120	<p>Planning Hazardous Substance Consents</p> <p>Name: British Gas Northern Engineering Location: Gas Holder, Oyston Street, South Shields, Tyne & Wear, Ne33 2ht Authority: South Tyneside Metropolitan Borough Council, Planning Department Application Ref: ST/SC/92/02 Hazardous Substance: Liquefied extremely flammable gas (including LPG) and natural gas (whether liquefied or not) Maximum Quantity: 60 Application date: 19th October 1992 Decision: Deemed Consent GrantedGranted Positional Accuracy: Manually positioned to the address or location</p>	A15SW (N)	771	5	436303 566989
120	<p>Planning Hazardous Substance Consents</p> <p>Name: Transco Plc Location: Gas Holder, Oyston Street, South Shields, Tyne And Wear Authority: South Tyneside Metropolitan Borough Council, Planning Department Application Ref: St/0228/01/Dm Hazardous Substance: Liquefied extremely flammable gas (including LPG) and natural gas (whether liquefied or not) Maximum Quantity: 0 Application date: 14th March 2001 Decision: Unknown at time of reportUnknown Positional Accuracy: Manually positioned to the address or location</p>	A15SW (N)	778	5	436309 566994

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
121	BGS Recorded Mineral Sites Site Name: Ballast Hills Brick Field Location: South Shields, South Tyneside Source: British Geological Survey, National Geoscience Information Service Reference: 120996 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Till, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A11SW (N)	175	3	436030 566450
122	BGS Recorded Mineral Sites Site Name: Westoe Location: Westoe, South Shields, Tyne And Wear Source: British Geological Survey, National Geoscience Information Service Reference: 95988 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Grindstone Post Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A11SW (NE)	241	3	436310 566262
123	BGS Recorded Mineral Sites Site Name: West House Location: South Shields, Tyne And Wear Source: British Geological Survey, National Geoscience Information Service Reference: 95994 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Grindstone Post Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A7NE (SE)	286	3	436355 565818
124	BGS Recorded Mineral Sites Site Name: Corny Hill Location: South Shields, Tyne And Wear Source: British Geological Survey, National Geoscience Information Service Reference: 95996 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Middle Coal Measures Formation Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A7SW (S)	470	3	436098 565448
125	BGS Recorded Mineral Sites Site Name: Corny Hill Location: South Shields, Tyne And Wear Source: British Geological Survey, National Geoscience Information Service Reference: 95995 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Middle Coal Measures Formation Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A7SW (S)	476	3	436245 565469
126	BGS Recorded Mineral Sites Site Name: St Hilda'S Colliery Location: South Shields, Tyne And Wear Source: British Geological Survey, National Geoscience Information Service Reference: 128036 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: High Main Coal (Northumberland And Durham) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A15SW (N)	566	3	436173 566815

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
127	BGS Recorded Mineral Sites Site Name: Carston Quarry Location: Westoe, South Shields, Tyne And Wear Source: British Geological Survey, National Geoscience Information Service Reference: 95989 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Permian Geology: Raisby Formation (Lower Magnesian Limestone) Commodity: Dolomite Positional Accuracy: Located by supplier to within 10m	A8NW (E)	574	3	436688 566037
128	BGS Recorded Mineral Sites Site Name: Anderson'S Brick Field Location: South Shields, South Tyneside Source: British Geological Survey, National Geoscience Information Service Reference: 120995 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Glaciolacustrine Deposits, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A11NE (NE)	639	3	436455 566750
129	BGS Recorded Mineral Sites Site Name: Swinburne'S Brick Field Location: South Shields, South Tyneside Source: British Geological Survey, National Geoscience Information Service Reference: 120994 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Glaciolacustrine Deposits, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A15SW (N)	652	3	436305 566860
130	BGS Recorded Mineral Sites Site Name: Westoe Location: Westoe, South Shields, Tyne And Wear Source: British Geological Survey, National Geoscience Information Service Reference: 99018 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Middle Coal Measures Formation Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A3NE (SE)	669	3	436519 565408
131	BGS Recorded Mineral Sites Site Name: Jarrow Chemical, Brick &Tile Works Location: South Shields, Tyne And Wear Source: British Geological Survey, National Geoscience Information Service Reference: 95997 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Middle Coal Measures Formation Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A2NW (SW)	709	3	435614 565307
132	BGS Recorded Mineral Sites Site Name: Oyston'S Brick Field Location: South Shields, South Tyneside Source: British Geological Survey, National Geoscience Information Service Reference: 120993 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Glaciolacustrine Deposits, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A15SE (NE)	832	3	436410 567010

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Westphalian Coal Measures	A6NE (N)	0	3	435995 566108
	Coal Mining Affected Areas Description: In an area which may be affected by coal mining activity. It is recommended that a coal mining report is obtained from the Coal Authority. Contact details are included in the Useful Contacts section of this report.	A6NE (N)	0	6	435995 566108
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A6NE (N)	0	-	435995 566108
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards No Hazard				
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A6NE (N)	0	3	435995 566108
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SW (NE)	15	3	436100 566200
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A10SE (N)	18	3	435995 566325
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A10SE (N)	68	3	435900 566375
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A10SE (NW)	73	3	435825 566225
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A10NE (N)	174	3	435850 566475
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A10NE (N)	200	3	435995 566500
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SW (NE)	234	3	436300 566275
	Potential for Ground Dissolution Stability Hazards No Hazard				
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A6NE (N)	0	3	435995 566108
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A10SE (W)	137	3	435775 566150
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A10SE (NW)	206	3	435725 566425
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A10SE (NW)	224	3	435675 566325
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A6NE (N)	0	3	435995 566108
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SW (NE)	15	3	436100 566200
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A10SE (N)	68	3	435900 566375

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A10SE (NW)	73	3	435825 566225
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A7NW (SE)	159	3	436250 565925
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A10NE (N)	174	3	435850 566475
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A6NE (N)	0	3	435995 566108
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SW (NE)	15	3	436100 566200
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A10SE (N)	104	3	435995 566400
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A7NW (SE)	146	3	436250 566000
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A7NW (SE)	159	3	436250 565925
	Radon Potential - Radon Affected Areas Affected Area: The property is in a lower probability radon area, as less than 1% of homes are above the action level Source: British Geological Survey, National Geoscience Information Service	A6NE (N)	0	3	435995 566108
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A6NE (N)	0	3	435995 566108

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
133	Contemporary Trade Directory Entries Name: Newcoats Location: 77, Frederick Street, South Shields, Tyne and Wear, NE33 5ED Classification: Plaster Manufacturers & Suppliers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NW (SE)	0	-	436097 566013
133	Contemporary Trade Directory Entries Name: The Creations Workshop Location: 89, Frederick Street, SOUTH SHIELDS, Tyne and Wear, NE33 5ED Classification: Wrought Ironwork Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NW (SE)	0	-	436092 565992
134	Contemporary Trade Directory Entries Name: Timber Line (Diy) Ltd Location: 38, Frederick Street, South Shields, Tyne and Wear, NE33 5EA Classification: Fencing Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A11SW (E)	5	-	436070 566132
135	Contemporary Trade Directory Entries Name: Peterson Printers Location: 12, Laygate, South Shields, Tyne and Wear, NE33 5RP Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address	A10SE (NW)	15	-	435883 566293
136	Contemporary Trade Directory Entries Name: General Laboratory Services Location: Unit 1b, Rekenyke Industrial Estate, South Shields, Tyne and Wear, NE33 5BZ Classification: Sheet Metal Work Status: Active Positional Accuracy: Automatically positioned to the address	A6NE (SW)	43	-	435887 566038
137	Contemporary Trade Directory Entries Name: Buyproducts Location: 17, Frederick Street, South Shields, Tyne and Wear, NE33 5DY Classification: Hardware Status: Inactive Positional Accuracy: Automatically positioned to the address	A11SW (E)	48	-	436117 566159
137	Contemporary Trade Directory Entries Name: Community Design & Print Location: 9-13, Frederick Street, South Shields, Tyne and Wear, NE33 5DY Classification: Photocopiers Status: Inactive Positional Accuracy: Automatically positioned to the address	A11SW (NE)	50	-	436123 566186
138	Contemporary Trade Directory Entries Name: Mvh Motors Location: 6, Laygate, South Shields, Tyne and Wear, NE33 1SH Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A10SE (NW)	65	-	435835 566323
138	Contemporary Trade Directory Entries Name: D M Auto Services Location: 6, Laygate, South Shields, Tyne and Wear, NE33 1SH Classification: Mechanical Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A10SE (NW)	65	-	435835 566323
138	Contemporary Trade Directory Entries Name: Premier Motor Co Location: 6, Laygate, South Shields, Tyne and Wear, NE33 1SH Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Manually positioned to the address or location	A10SE (NW)	65	-	435835 566323
138	Contemporary Trade Directory Entries Name: John Nicol Location: 4, Laygate, South Shields, Tyne and Wear, NE33 1SH Classification: Wrought Ironwork Status: Active Positional Accuracy: Automatically positioned to the address	A10SE (NW)	72	-	435829 566325

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
139	Contemporary Trade Directory Entries Name: East Coast Fibreglass Supplies Location: Rekendyke Industrial Estate, South Shields, Tyne and Wear, NE33 5BZ Classification: Glass Fibre Moulding, Materials & Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A6NE (W)	82	-	435842 566094
139	Contemporary Trade Directory Entries Name: Hi Spec Location: West Walpole St, South Shields, Tyne And Wear, NE33 5BY Classification: Mould Manufacturers Status: Active Positional Accuracy: Manually positioned to the road within the address or location	A6NE (W)	96	-	435830 566079
139	Contemporary Trade Directory Entries Name: East Coast Fibreglass Supplies Location: West Walpole St, South Shields, Tyne And Wear, NE33 5BY Classification: Glass Fibre Manufacturers Status: Active Positional Accuracy: Manually positioned to the road within the address or location	A6NE (W)	97	-	435829 566079
139	Contemporary Trade Directory Entries Name: Lister Mouldings Ltd Location: Rekendyke Industrial Estate, South Shields, Tyne and Wear, NE33 5BZ Classification: Plastics - Injection Moulding Status: Inactive Positional Accuracy: Automatically positioned to the address	A6NE (W)	120	-	435810 566035
139	Contemporary Trade Directory Entries Name: C-Tech North East Location: Unit 2, Rekendyke Industrial Estate, South Shields, Tyne and Wear, NE33 5BZ Classification: Commercial Cleaning Services Status: Active Positional Accuracy: Manually positioned to the address or location	A6NE (W)	120	-	435802 566107
140	Contemporary Trade Directory Entries Name: Hedley (Engineering Services) Ltd Location: Havelock Street, South Shields, Tyne and Wear, NE33 5DZ Classification: Engineers - General Status: Active Positional Accuracy: Automatically positioned to the address	A10SE (W)	104	-	435816 566122
140	Contemporary Trade Directory Entries Name: Eldon Street Factory The Location: Eldon Street, South Shields, Tyne and Wear, NE33 5BU Classification: Clothing & Fabrics - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A10SE (W)	104	-	435816 566122
140	Contemporary Trade Directory Entries Name: Circatex Location: Eldon Street, South Shields, Tyne and Wear, NE33 5BU Classification: Printed Circuit Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A10SE (W)	104	-	435816 566122
140	Contemporary Trade Directory Entries Name: Punjab Kitchen Location: Eldon Street, South Shields, Tyne and Wear, NE33 5BU Classification: Food Products - Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A10SE (W)	104	-	435816 566122
141	Contemporary Trade Directory Entries Name: Collin Sinclair Location: Unit 10D, Rekendyke Industrial Estate, South Shields, Tyne and Wear, NE33 5BZ Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A6NE (SW)	110	-	435824 566005
141	Contemporary Trade Directory Entries Name: Box Clever Location: Unit 11A, Rekendyke Ind Est, South Shields, Tyne and Wear, NE33 5BZ Classification: Boxes & Cartons Status: Inactive Positional Accuracy: Manually positioned to the address or location	A6NE (SW)	116	-	435822 565964

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
141	Contemporary Trade Directory Entries Name: Daves Carcare Centre Location: Unit 10C, Rekendyke Ind Est, South Shields, Tyne and Wear, NE33 5BZ Classification: Car Body Repairs Status: Active Positional Accuracy: Manually positioned to the address or location	A6NE (SW)	118	-	435816 566004
141	Contemporary Trade Directory Entries Name: Ian'S Location: Unit 10B, Rekendyke Industrial Estate, South Shields, Tyne and Wear, NE33 5BZ Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A6NE (SW)	125	-	435809 566004
141	Contemporary Trade Directory Entries Name: Mike Jermy Motors Location: Unit 10A, Rekendyke Industrial Estate, South Shields, Tyne and Wear, NE33 5BZ Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A6NE (SW)	132	-	435802 566004
142	Contemporary Trade Directory Entries Name: Select Car Centre Location: Commercial Rd, South Shields, Tyne & Wear, NE33 1SE Classification: Car Dealers - Used Status: Active Positional Accuracy: Manually positioned to the road within the address or location	A10SE (NW)	122	-	435776 566310
143	Contemporary Trade Directory Entries Name: Decorative Shades 2 Location: 14, New Green Street, SOUTH SHIELDS, Tyne and Wear, NE33 5DL Classification: Painting & Decorating Supplies Status: Inactive Positional Accuracy: Automatically positioned to the address	A11SW (NE)	139	-	436168 566318
144	Contemporary Trade Directory Entries Name: Tyne Auto Location: Hill Street, South Shields, Tyne and Wear, NE33 1RN Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A10SE (NW)	155	-	435811 566436
144	Contemporary Trade Directory Entries Name: Jennings Of South Shields Location: Commercial Road, South Shields, Tyne and Wear, NE33 1RW Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A10SE (NW)	157	-	435790 566421
145	Contemporary Trade Directory Entries Name: W M Bertram & Son Ltd Location: Unit 5, Rekendyke Industrial Estate, South Shields, Tyne and Wear, NE33 5BZ Classification: Boilers - Servicing, Replacements & Repairs Status: Active Positional Accuracy: Automatically positioned to the address	A6NE (W)	160	-	435761 566112
146	Contemporary Trade Directory Entries Name: Kwik-Fit Location: 134, Laygate, South Shields, Tyne and Wear, NE33 4JD Classification: Tyre Dealers Status: Active Positional Accuracy: Automatically positioned to the address	A7NW (E)	167	-	436282 566058
147	Contemporary Trade Directory Entries Name: J R Selby Coachworks Ltd Location: Commercial Road, South Shields, Tyne and Wear, NE33 1RQ Classification: Commercial Vehicle Bodybuilders & Repairers Status: Active Positional Accuracy: Automatically positioned to the address	A10NE (N)	174	-	435913 566481
147	Contemporary Trade Directory Entries Name: J R Selby Engineering Ltd Location: Commercial Road, South Shields, Tyne and Wear, NE33 1RQ Classification: Sheet Metal Work Status: Inactive Positional Accuracy: Automatically positioned to the address	A10NE (N)	175	-	435913 566481

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
147	Contemporary Trade Directory Entries Name: Trinity Motors Location: A, 140, Commercial Road, South Shields, Tyne and Wear, NE33 1RQ Classification: Car Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A10NE (N)	216	-	435899 566523
147	Contemporary Trade Directory Entries Name: Stans Location: 140a, Commercial Road, South Shields, Tyne and Wear, NE33 1RQ Classification: Mechanical Engineers Status: Active Positional Accuracy: Automatically positioned to the address	A10NE (N)	216	-	435899 566523
147	Contemporary Trade Directory Entries Name: Stan'S Car Sales Location: A, 140, Commercial Road, South Shields, Tyne and Wear, NE33 1RQ Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Automatically positioned to the address	A10NE (N)	216	-	435899 566523
148	Contemporary Trade Directory Entries Name: C J Print Location: Riverside Ho, Commercial Rd, South Shields, Tyne & Wear, NE33 1RW Classification: Printers Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A10NE (N)	176	-	435862 566480
149	Contemporary Trade Directory Entries Name: Charles W Taylor & Son Ltd Location: 30 Hill St, South Shields, Tyne & Wear, NE33 1RN Classification: Foundries Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A10NE (NW)	209	-	435781 566480
149	Contemporary Trade Directory Entries Name: Cammell Laird Location: Hill St, South Shields, Tyne & Wear, NE33 1RN Classification: Ship Builders, Repairs & Fittings Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A10NE (NW)	226	-	435765 566490
149	Contemporary Trade Directory Entries Name: Baps Location: Hill Street, South Shields, Tyne and Wear, NE33 1RN Classification: Packaging & Wrapping Equipment & Supplies Status: Inactive Positional Accuracy: Automatically positioned in the proximity of the address	A10NE (NW)	245	-	435763 566512
150	Contemporary Trade Directory Entries Name: Tandem Beck Location: Amne Buildings, Tudor Rd, South Shields, Tyne and Wear, NE33 5RD Classification: Textile Manufacturing Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A11SW (NE)	215	-	436152 566448
150	Contemporary Trade Directory Entries Name: Be Modern Ltd Location: Western Approach, South Shields, Tyne and Wear, NE33 5QZ Classification: Fireplaces & Mantelpieces Status: Active Positional Accuracy: Automatically positioned to the address	A11NW (NE)	252	-	436184 566472
150	Contemporary Trade Directory Entries Name: North Eastern Distribution Location: Western Approach, South Shields, Tyne and Wear, NE33 5QZ Classification: Fireplaces & Mantelpieces Status: Inactive Positional Accuracy: Automatically positioned to the address	A11NW (NE)	252	-	436184 566472
151	Contemporary Trade Directory Entries Name: Tyne & Wear Access Location: Plot C Portberry Way, South Shields, Tyne and Wear, NE33 1SB Classification: Scaffolding & Work Platforms Status: Active Positional Accuracy: Manually positioned to the road within the address or location	A10SE (W)	227	-	435690 566132

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
152	Contemporary Trade Directory Entries Name: Ken Oates Location: Unit 8C, Rekendyke Industrial Estate, South Shields, Tyne and Wear, NE33 5BZ Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A6NE (SW)	240	-	435697 565968
152	Contemporary Trade Directory Entries Name: Ken Oates Location: Unit 8c, Rekendyke Industrial Estate, South Shields, Tyne and Wear, NE33 5BZ Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A6NE (SW)	240	-	435697 565968
152	Contemporary Trade Directory Entries Name: Hi Spec Fabrication Location: Unit 8b, Rekendyke Industrial Estate, South Shields, Tyne and Wear, NE33 5BZ Classification: Window Frames - Sales & Service Status: Active Positional Accuracy: Automatically positioned to the address	A6NE (SW)	241	-	435697 565953
152	Contemporary Trade Directory Entries Name: Kompass Plastics Location: Unit 8A, Rekendyke Industrial Estate, South Shields, Tyne and Wear, NE33 5BZ Classification: PVC-U Products - Manufacturers & Suppliers Status: Inactive Positional Accuracy: Automatically positioned to the address	A6NE (SW)	242	-	435697 565941
152	Contemporary Trade Directory Entries Name: Tyneside Fabrications Location: Unit 8a, Rekendyke Industrial Estate, South Shields, Tyne and Wear, NE33 5BZ Classification: Door Manufacturers - Industrial Status: Active Positional Accuracy: Automatically positioned to the address	A6NE (SW)	242	-	435697 565941
152	Contemporary Trade Directory Entries Name: Mitre Joinery Location: Portberry House, Portberry Street, South Shields, Tyne and Wear, NE33 1QX Classification: Joinery Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A6NW (SW)	280	-	435660 565941
152	Contemporary Trade Directory Entries Name: Sutherlands Location: Portberry House, Portberry Street, South Shields, Tyne and Wear, NE33 1QX Classification: Tyre Dealers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A6NW (SW)	280	-	435660 565941
152	Contemporary Trade Directory Entries Name: Sutherlands Location: Portberry House, Portberry Street, South Shields, Tyne and Wear, NE33 1QX Classification: Tyre Dealers Status: Active Positional Accuracy: Manually positioned to the address or location	A6NW (SW)	280	-	435660 565941
153	Contemporary Trade Directory Entries Name: Denz Performance Location: Unit B, Portberry St, South Shields, Tyne and Wear, NE33 1QX Classification: Car Engine Tuning & Diagnostic Services Status: Inactive Positional Accuracy: Manually positioned to the address or location	A6NE (W)	242	-	435684 566062
153	Contemporary Trade Directory Entries Name: Tgs Industrial Supplies Ltd Location: Portberry Street, South Shields, Tyne and Wear, NE33 1QX Classification: Gas Suppliers Status: Active Positional Accuracy: Automatically positioned to the address	A6NW (W)	262	-	435669 566024
153	Contemporary Trade Directory Entries Name: South Tyne Building Supplies Location: Portberry Street, South Shields, Tyne and Wear, NE33 1QX Classification: Builders' Merchants Status: Inactive Positional Accuracy: Automatically positioned to the address	A6NW (W)	262	-	435669 566024

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
153	Contemporary Trade Directory Entries Name: Millway Location: Unit 4 Portberry St, South Shields, Tyne & Wear, NE33 1QX Classification: Garage Services Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A6NW (W)	293	-	435641 565990
154	Contemporary Trade Directory Entries Name: Osborne Ltd Location: Commercial Road, South Shields, Tyne and Wear, NE33 1RQ Classification: Road Haulage Services Status: Active Positional Accuracy: Automatically positioned to the address	A10NE (N)	244	-	435968 566541
155	Contemporary Trade Directory Entries Name: Tyneside Car Sales Ltd Location: Tudor Road, South Shields, Tyne and Wear, NE33 5RD Classification: Car Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A11NW (N)	247	-	436126 566496
155	Contemporary Trade Directory Entries Name: Tyneside Car Sales Location: Tudor Road, South Shields, Tyne and Wear, NE33 5RD Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Automatically positioned to the address	A11NW (N)	247	-	436126 566496
155	Contemporary Trade Directory Entries Name: Tudor Road Garage Location: Tudor Rd, South Shields, Tyne & Wear, NE33 4PQ Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A11NW (N)	262	-	436092 566522
156	Contemporary Trade Directory Entries Name: Ford & Vauxhall Spares Location: Portberry St, South Shields, Tyne & Wear, NE33 1QX Classification: Car Breakers & Dismantlers Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A6NW (W)	255	-	435666 566102
157	Contemporary Trade Directory Entries Name: Marias Location: 76, Dacre Street, South Shields, Tyne and Wear, NE33 5QB Classification: Ironing & Home Laundry Services Status: Active Positional Accuracy: Automatically positioned to the address	A7NW (SE)	259	-	436329 565828
158	Contemporary Trade Directory Entries Name: Blades Location: Unit 8, 12, Nile Street, South Shields, Tyne and Wear, NE33 1RH Classification: Tool Sharpening, Repairing & Servicing Status: Inactive Positional Accuracy: Automatically positioned to the address	A10NE (NW)	262	-	435801 566551
158	Contemporary Trade Directory Entries Name: Bm Screen Location: Unit 8, 12, Nile Street, South Shields, Tyne and Wear, NE33 1RH Classification: Screen Process Printers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A10NE (NW)	262	-	435801 566551
158	Contemporary Trade Directory Entries Name: I T C Location: Nile Street, South Shields, Tyne and Wear, NE33 1RH Classification: Waste Disposal Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A10NE (NW)	286	-	435798 566575
159	Contemporary Trade Directory Entries Name: Stagecoach Location: Dean Road, South Shields, Tyne and Wear, NE33 4HZ Classification: Bus & Coach Operators & Stations Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SE)	309	-	436350 565756
159	Contemporary Trade Directory Entries Name: Stagecoach Location: Dean Road, South Shields, Tyne and Wear, NE33 4HZ Classification: Bus & Coach Operators & Stations Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SE)	309	-	436350 565756

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
160	Contemporary Trade Directory Entries Name: Ats Euromaster Ltd Location: Western Approach, South Shields, Tyne & Wear, NE33 5QU Classification: Tyre Dealers Status: Active Positional Accuracy: Manually positioned to the road within the address or location	A11NW (NE)	315	-	436244 566504
160	Contemporary Trade Directory Entries Name: Crown Location: Crown House,4 Western Approach, South Shields, Tyne and Wear, NE33 5QU Classification: PVC-U Products - Manufacturers & Suppliers Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A11NW (NE)	352	-	436249 566548
160	Contemporary Trade Directory Entries Name: Arndale Engineering Location: D-E, Unit, Western Approach, South Shields, Tyne and Wear, NE33 5NN Classification: Nuts, Bolts & Fixings Status: Active Positional Accuracy: Automatically positioned to the address	A11NW (NE)	353	-	436285 566519
161	Contemporary Trade Directory Entries Name: Dean Garages (South Shields) Ltd Location: Dean Road, South Shields, Tyne and Wear, NE33 5PY Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SW (SE)	317	-	436275 565663
162	Contemporary Trade Directory Entries Name: South Tyne Building Supplies Location: Portberry Street, South Shields, Tyne and Wear, NE33 1QX Classification: Builders' Merchants Status: Active Positional Accuracy: Automatically positioned to the address	A6NW (W)	325	-	435605 566028
162	Contemporary Trade Directory Entries Name: Doyle Bros Location: 5-7, Corstorphine Town, South Shields, Tyne and Wear, NE33 1RZ Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A6NW (W)	338	-	435593 566013
162	Contemporary Trade Directory Entries Name: C C C Manufacturing Location: 7, Portberry Street, South Shields, Tyne and Wear, NE33 1QX Classification: Clothing & Fabrics - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A6NW (W)	338	-	435593 566013
162	Contemporary Trade Directory Entries Name: R N M Autos Location: 7, Portberry Street, SOUTH SHIELDS, Tyne and Wear, NE33 1QX Classification: Mot Testing Centres Status: Active Positional Accuracy: Automatically positioned to the address	A6NW (W)	338	-	435593 566013
163	Contemporary Trade Directory Entries Name: Falcon Engineering Location: 4, Cone Street, South Shields, Tyne and Wear, NE33 1RE Classification: Engineers - General Status: Inactive Positional Accuracy: Automatically positioned to the address	A10NE (N)	332	-	435876 566639
163	Contemporary Trade Directory Entries Name: Tyne Slipway & Engineering Location: Commercial Rd, South Shields, Tyne and Wear, NE33 1RP Classification: Ship Builders, Repairs & Fittings Status: Active Positional Accuracy: Manually positioned to the address or location	A10NE (N)	368	-	435880 566675
164	Contemporary Trade Directory Entries Name: Foremost Auto Centre Ltd Location: Pan Bank, Commercial Road, South Shields, Tyne and Wear, NE33 1RT Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A10SW (W)	336	-	435572 566193

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
164	Contemporary Trade Directory Entries Name: Foremost Tyres & Exhausts Location: Pan Bank, Commercial Road, South Shields, Tyne and Wear, NE33 1RT Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A10SW (W)	336	-	435572 566193
164	Contemporary Trade Directory Entries Name: Mcnulty Offshore Construction Ltd Location: 16-17, Corstorphine Town, South Shields, Tyne and Wear, NE33 1RZ Classification: Engineers - General Status: Active Positional Accuracy: Automatically positioned to the address	A10SW (W)	372	-	435540 566164
165	Contemporary Trade Directory Entries Name: C V N Print Location: 42, Maxwell Street, South Shields, Tyne and Wear, NE33 4PU Classification: Printers Status: Active Positional Accuracy: Automatically positioned to the address	A11SW (NE)	338	-	436331 566436
165	Contemporary Trade Directory Entries Name: Lees Cleaning Services Location: 43 Maxwell St, South Shields, Tyne & Wear, NE33 4PU Classification: Commercial Cleaning Services Status: Active Positional Accuracy: Manually positioned to the address or location	A11SE (NE)	357	-	436364 566418
166	Contemporary Trade Directory Entries Name: Malac Trading Ltd Location: Commercial Rd, South Shields, Tyne and Wear, NE33 1RP Classification: Marine Engineers Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A10NE (N)	354	-	435956 566656
167	Contemporary Trade Directory Entries Name: Beacon Safety Showers Location: Beacon House, Maxwell St, South Shields, Tyne and Wear, NE33 4PU Classification: Glass Fibre Moulding, Materials & Manufacturers Status: Active Positional Accuracy: Manually positioned to the road within the address or location	A11SE (NE)	363	-	436355 566446
167	Contemporary Trade Directory Entries Name: G & N'S Location: Maxwell St, South Shields, Tyne & Wear, NE33 4PU Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A11NE (NE)	367	-	436354 566454
167	Contemporary Trade Directory Entries Name: Maxwell Street Motors Location: 32, Maxwell Street, South Shields, Tyne and Wear, NE33 4PU Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A11NW (NE)	368	-	436332 566490
167	Contemporary Trade Directory Entries Name: Henderson Motors Location: Maxwell St, South Shields, Tyne and Wear, NE33 4PU Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A11NE (NE)	372	-	436354 566464
167	Contemporary Trade Directory Entries Name: Gary Tuck Workshops Ltd Location: 37-38, Maxwell Street, South Shields, Tyne and Wear, NE33 4PU Classification: Car Dealers Status: Active Positional Accuracy: Automatically positioned to the address	A11NE (NE)	383	-	436364 566469
167	Contemporary Trade Directory Entries Name: Performance Cars Location: 29-35, Maxwell Street, South Shields, Tyne and Wear, NE33 4PU Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A11NE (NE)	414	-	436371 566513

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
168	Contemporary Trade Directory Entries Name: The Plastic Trim Centre Location: Crown House, 4, Western Approach, South Shields, Tyne and Wear, NE33 5QU Classification: Builders' Merchants Status: Active Positional Accuracy: Automatically positioned to the address	A11NW (NE)	364	-	436222 566580
169	Contemporary Trade Directory Entries Name: Baldwins Industrial Services Plc Location: Corstorphine Town, South Shields, Tyne & Wear, NE33 1RZ Classification: Crane Hire, Sales & Service Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A6NW (W)	365	-	435558 566080
170	Contemporary Trade Directory Entries Name: Charles W Taylor & Son Ltd Location: Templetown, South Shields, Tyne and Wear, NE33 5SE Classification: Foundries Status: Inactive Positional Accuracy: Automatically positioned to the address	A6SW (SW)	387	-	435591 565772
171	Contemporary Trade Directory Entries Name: M A P Engineering (Ne) Ltd Location: Maxwell St, South Shields, Tyne & Wear, NE33 4PU Classification: Mechanical Engineers Status: Active Positional Accuracy: Manually positioned to the address or location	A11NW (NE)	404	-	436336 566540
171	Contemporary Trade Directory Entries Name: Tyneside Tyre Services Location: 26, Maxwell Street, South Shields, Tyne and Wear, NE33 4PU Classification: Tyre Dealers Status: Active Positional Accuracy: Automatically positioned to the address	A11NW (NE)	405	-	436336 566540
171	Contemporary Trade Directory Entries Name: Toney Minchella Location: 18-20, Maxwell Street, South Shields, Tyne and Wear, NE33 4PU Classification: Ice Cream Manufacturers & Suppliers Status: Active Positional Accuracy: Automatically positioned to the address	A11NW (NE)	422	-	436337 566565
171	Contemporary Trade Directory Entries Name: N P S Services Location: 14, Maxwell Street, South Shields, Tyne and Wear, NE33 4PU Classification: Wrought Ironwork Status: Inactive Positional Accuracy: Automatically positioned to the address	A11NW (NE)	438	-	436334 566589
171	Contemporary Trade Directory Entries Name: Euro Hire & Sales Ltd Location: Maxwell St, South Shields, Tyne and Wear, NE33 4PU Classification: Corrosion Prevention & Control Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A11NE (NE)	441	-	436352 566576
172	Contemporary Trade Directory Entries Name: Dean Clean Location: 174, Dean Road, South Shields, Tyne and Wear, NE33 4AQ Classification: Laundries & Launderettes Status: Active Positional Accuracy: Automatically positioned to the address	A7NE (E)	445	-	436539 565916
172	Contemporary Trade Directory Entries Name: Country Apparel Location: 172, Dean Road, South Shields, Tyne and Wear, NE33 4AQ Classification: Clothing & Fabrics - Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A7NE (E)	453	-	436547 565917
173	Contemporary Trade Directory Entries Name: South Tyneside Auto Electrics Location: 1 Maxwell St, South Shields, Tyne and Wear, NE33 4PU Classification: Electronic Engineers Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A11NW (NE)	449	-	436314 566620

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
174	Contemporary Trade Directory Entries Name: Durham Sheet Metal Works Ltd Location: Progress House, Templetown, South Shields, Tyne and Wear, NE33 5TE Classification: Sheet Metal Work Status: Active Positional Accuracy: Automatically positioned to the address	A6SW (SW)	458	-	435564 565677
175	Contemporary Trade Directory Entries Name: Van Dalen (Uk) Ltd Location: Mitre Pl, South Shields, Tyne and Wear, NE33 5TB Classification: Recycling Centres Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A6SW (SW)	467	-	435633 565586
175	Contemporary Trade Directory Entries Name: Lamb International Ltd Location: Unit 2 Mitre Pl, South Shields, Tyne & Wear, NE33 5TB Classification: Road Haulage Services Status: Active Positional Accuracy: Manually positioned to the road within the address or location	A6SW (SW)	482	-	435606 565590
175	Contemporary Trade Directory Entries Name: Pizza Pack Location: Tyne View House, Templetown, South Shields, Tyne and Wear, NE33 5SH Classification: Boxes & Cartons Status: Inactive Positional Accuracy: Manually positioned to the address or location	A6SW (SW)	517	-	435579 565568
176	Contemporary Trade Directory Entries Name: Ford Component Manufacturing Ltd Location: East Side, Tyne Dock, South Shields, Tyne and Wear, NE33 5ST Classification: Precision Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A6NW (SW)	473	-	435493 565783
177	Contemporary Trade Directory Entries Name: Bizzy (Uk) Location: 129, Victoria Road, South Shields, Tyne and Wear, NE33 4LP Classification: Commercial Cleaning Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A11SE (NE)	479	-	436506 566419
177	Contemporary Trade Directory Entries Name: Bizzy Location: 129, Victoria Road, South Shields, Tyne and Wear, NE33 4LP Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A11SE (NE)	479	-	436506 566419
178	Contemporary Trade Directory Entries Name: Harlow Printing Ltd Location: 7-21, Maxwell Street, South Shields, Tyne and Wear, NE33 4PU Classification: Printers Status: Active Positional Accuracy: Automatically positioned to the address	A11NE (NE)	490	-	436363 566633
179	Contemporary Trade Directory Entries Name: Temple Town Autos Location: 3, Nicholson Buildings, Mitre Place, South Shields, Tyne and Wear, NE33 5TB Classification: Car Breakers & Dismantlers Status: Active Positional Accuracy: Automatically positioned to the address	A6SW (SW)	519	-	435542 565605
179	Contemporary Trade Directory Entries Name: P M C Cars Location: Unit 3, Nicholson Buildings, Mitre Place, South Shields, Tyne and Wear, NE33 5TB Classification: Car Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A6SW (SW)	519	-	435542 565605
179	Contemporary Trade Directory Entries Name: B R G Auto Motive Location: 5, Nicholson Buildings, South Shields, Tyne and Wear, NE33 5BD Classification: Mot Testing Centres Status: Active Positional Accuracy: Manually positioned to the address or location	A6SW (SW)	519	-	435542 565604

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
180	Contemporary Trade Directory Entries Name: Aa Service Centre Location: Station Road, South Shields, Tyne and Wear, NE33 1ED Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A15SW (N)	526	-	436038 566814
181	Contemporary Trade Directory Entries Name: G W Foreman Location: Unit 2, St. Hilda Industrial Estate, Station Road, South Shields, Tyne and Wear, NE33 1RA Classification: Metal Workers Status: Inactive Positional Accuracy: Automatically positioned to the address	A15SW (N)	538	-	436144 566795
181	Contemporary Trade Directory Entries Name: Halfords Autocentre Location: Station Rd, South Shields, Tyne and Wear, NE33 1ED Classification: Garage Services Status: Active Positional Accuracy: Manually positioned to the road within the address or location	A15SW (N)	540	-	436108 566808
181	Contemporary Trade Directory Entries Name: Templetown Canopies Location: Unit 4, St. Hilda Industrial Estate, Station Road, South Shields, Tyne and Wear, NE33 1RA Classification: Glass Fibre Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A15SW (N)	548	-	436137 566808
181	Contemporary Trade Directory Entries Name: Wizz Print Location: Unit 5, St. Hilda Industrial Estate, Station Road, South Shields, Tyne and Wear, NE33 1RA Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address	A15SW (N)	554	-	436132 566815
182	Contemporary Trade Directory Entries Name: Tool Repair Centre Location: Unit 4/6, Holman Court, Henry Robson Way, South Shields, Tyne and Wear, NE33 1RL Classification: Tool Sharpening, Repairing & Servicing Status: Inactive Positional Accuracy: Automatically positioned to the address	A11NW (NE)	538	-	436312 566729
182	Contemporary Trade Directory Entries Name: The Plastics Centre Location: Unit 4, Holman Court, Henry Robson Way, South Shields, Tyne and Wear, NE33 1RL Classification: PVC-U Products - Manufacturers & Suppliers Status: Active Positional Accuracy: Automatically positioned to the address	A11NW (NE)	539	-	436312 566729
182	Contemporary Trade Directory Entries Name: Pressit Location: Unit 306, Tedco Business Works, Henry Robson Way, South Shields, Tyne and Wear, NE33 1RF Classification: Ironing & Home Laundry Services Status: Active Positional Accuracy: Manually positioned to the address or location	A11NW (NE)	569	-	436296 566772
183	Contemporary Trade Directory Entries Name: Direct Timber Sales Location: Evans Yard, Templetown, South Shields, Tyne and Wear, NE33 5SH Classification: Builders' Merchants Status: Inactive Positional Accuracy: Automatically positioned in the proximity of the address	A6SW (SW)	541	-	435616 565504
183	Contemporary Trade Directory Entries Name: Garden Lane Garage Location: Evans Yard, Templetown, South Shields, Tyne and Wear, NE33 5SH Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned in the proximity of the address	A6SW (SW)	541	-	435616 565504
184	Contemporary Trade Directory Entries Name: Tiptop Tyres Location: 4a, Evans Yard, Templetown, South Shields, Tyne and Wear, NE33 5SH Classification: Tyre Dealers Status: Active Positional Accuracy: Automatically positioned to the address	A6SW (SW)	549	-	435635 565481

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
184	Contemporary Trade Directory Entries Name: G L Motors Location: Unit 4, Mitre Place, South Shields, Tyne and Wear, NE33 5TB Classification: Car Body Repairs Status: Active Positional Accuracy: Automatically positioned to the address	A6SW (SW)	579	-	435629 565449
184	Contemporary Trade Directory Entries Name: Tyne View Garage Location: Unit 2, Mitre Place, South Shields, Tyne and Wear, NE33 5TB Classification: Mot Testing Centres Status: Active Positional Accuracy: Manually positioned to the address or location	A6SW (SW)	592	-	435603 565450
185	Contemporary Trade Directory Entries Name: Plastic Cladding Centre Location: 60, Stanhope Road, South Shields, Tyne and Wear, NE33 4BS Classification: Cladding Suppliers & Installers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A7SE (SE)	551	-	436529 565590
185	Contemporary Trade Directory Entries Name: Stanhope Electricals Location: 60, Stanhope Road, South Shields, Tyne and Wear, NE33 4BS Classification: Electrical Goods Sales, Manufacturers & Wholesalers Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SE)	551	-	436529 565590
186	Contemporary Trade Directory Entries Name: Mill Dam Location: Mill Dam, South Shields, Tyne and Wear, NE33 1EQ Classification: Garage Services Status: Active Positional Accuracy: Manually positioned to the road within the address or location	A14SE (N)	557	-	435884 566864
187	Contemporary Trade Directory Entries Name: T W Holdsworth Location: 134, Dean Road, South Shields, Tyne and Wear, NE33 4AP Classification: Electrical Goods Sales, Manufacturers & Wholesalers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NE (E)	563	-	436662 565935
187	Contemporary Trade Directory Entries Name: Laundrymat Location: 126, Dean Road, South Shields, Tyne and Wear, NE33 4AW Classification: Laundries & Launderettes Status: Active Positional Accuracy: Automatically positioned to the address	A7NE (E)	575	-	436674 565934
188	Contemporary Trade Directory Entries Name: Washington Patterns Ltd Location: Unit 8, St. Hilda Industrial Estate, Station Road, South Shields, Tyne and Wear, NE33 1RA Classification: Wood Products, Except Furniture - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A15SW (N)	573	-	436112 566841
188	Contemporary Trade Directory Entries Name: Valve Services Ltd Location: 10, Station Road, South Shields, Tyne and Wear, NE33 1ED Classification: Valve Manufacturers & Suppliers Status: Active Positional Accuracy: Automatically positioned to the address	A15SW (N)	595	-	436129 566859
188	Contemporary Trade Directory Entries Name: Qms Engineering Ltd Location: Unit 12, St. Hilda Ind Est, Station Rd, South Shields, Tyne and Wear, NE33 1RA Classification: Precision Engineers Status: Active Positional Accuracy: Manually positioned to the address or location	A15SW (N)	612	-	436150 566870
189	Contemporary Trade Directory Entries Name: Napier Motors Location: 4, Albany Street West, South Shields, Tyne and Wear, NE33 4BE Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SE)	580	-	436593 565634

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
189	Contemporary Trade Directory Entries Name: R G Motors Location: 4, Albany Street West, South Shields, Tyne and Wear, NE33 4BE Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SE)	580	-	436593 565634
190	Contemporary Trade Directory Entries Name: Mitre Motors Location: Mitre Pl, South Shields, Tyne & Wear, NE33 5TB Classification: Car Dealers - Used Status: Active Positional Accuracy: Manually positioned to the road within the address or location	A2NW (SW)	586	-	435646 565430
190	Contemporary Trade Directory Entries Name: Dennis Parker Location: Mitre Pl, South Shields, Tyne and Wear, NE33 5TB Classification: Road Haulage Services Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A2NW (SW)	590	-	435638 565430
190	Contemporary Trade Directory Entries Name: Mountain Metals Location: Unit 10, Mitre Place, South Shields, Tyne and Wear, NE33 5TB Classification: Metal Products - Fabricated Status: Inactive Positional Accuracy: Manually positioned to the address or location	A2NW (SW)	593	-	435668 565410
190	Contemporary Trade Directory Entries Name: Tlc Cars Location: 2 Mitre Pl, South Shields, Tyne & Wear, NE33 5TB Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A2NW (SW)	595	-	435629 565430
190	Contemporary Trade Directory Entries Name: Mitre Breakers Location: 2 Mitre Pl, South Shields, Tyne & Wear, NE33 5TB Classification: Car Breakers & Dismantlers Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A2NW (SW)	599	-	435622 565430
191	Contemporary Trade Directory Entries Name: Garden Lane Garage Location: Templetown, South Shields, Tyne and Wear, NE33 5SH Classification: Garage Services Status: Active Positional Accuracy: Manually positioned to the road within the address or location	A6SW (SW)	598	-	435549 565485
192	Contemporary Trade Directory Entries Name: Mill-Dam Portland Location: 25-27, Shrewsbury Terrace, South Shields, Tyne and Wear, NE33 4LF Classification: Bus & Coach Operators & Stations Status: Active Positional Accuracy: Automatically positioned to the address	A7SE (SE)	605	-	436484 565462
193	Contemporary Trade Directory Entries Name: Decorum Location: 209 Tedco Business Works, Henry Robson Way, South Shields, Tyne and Wear, NE33 1RF Classification: Sports Equipment Manufacturers & Distributors Status: Active Positional Accuracy: Manually positioned to the address or location	A15SW (N)	621	-	436246 566850
193	Contemporary Trade Directory Entries Name: Maxi Flow Location: Unit 208, Tedco Business Works, Henry Robson Way, South Shields, Tyne and Wear, NE33 1RF Classification: Engineering Materials Status: Active Positional Accuracy: Manually positioned to the address or location	A15SW (N)	621	-	436246 566850
193	Contemporary Trade Directory Entries Name: B-Able Ltd Location: Unit 201, Tedco Business Works, Henry Robson Way, South Shields, Tyne and Wear, NE33 1RF Classification: Disability Equipment - Manufacturers & Suppliers Status: Active Positional Accuracy: Manually positioned to the address or location	A15SW (N)	623	-	436246 566852

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
193	Contemporary Trade Directory Entries Name: Levant Office Interiors Location: Unit 313, Tedco Business Works, Henry Robson Way, South Shields, Tyne and Wear, NE33 1RF Classification: Office Furniture & Equipment Status: Active Positional Accuracy: Manually positioned to the address or location	A15SW (N)	663	-	436254 566892
194	Contemporary Trade Directory Entries Name: Travis Perkins Trading Co Ltd Location: Unit 1, Mitre Place, SOUTH SHIELDS, Tyne and Wear, NE33 5TB Classification: Builders' Merchants Status: Active Positional Accuracy: Automatically positioned to the address	A2NW (SW)	627	-	435572 565430
194	Contemporary Trade Directory Entries Name: Peter Coach Works & Toms Autos Location: Unit 1, Mitre Place, South Shields, Tyne and Wear, NE33 5TB Classification: Car Body Repairs Status: Active Positional Accuracy: Automatically positioned to the address	A2NW (SW)	627	-	435572 565430
194	Contemporary Trade Directory Entries Name: D & E Autos Location: Unit 1, Mitre Place, South Shields, Tyne and Wear, NE33 5TB Classification: Garage Services Status: Inactive Positional Accuracy: Manually positioned to the address or location	A2NW (SW)	627	-	435572 565430
194	Contemporary Trade Directory Entries Name: Motorway Tyres & Accessories Ltd Location: 2, Mitre Place, South Shields, Tyne and Wear, NE33 5TB Classification: Tyre Dealers Status: Inactive Positional Accuracy: Automatically positioned in the proximity of the address	A2NW (SW)	649	-	435589 565391
194	Contemporary Trade Directory Entries Name: W S Newham & Sons Location: 2 Mitre Pl, South Shields, Tyne & Wear, NE33 5TB Classification: Coal & Smokeless Fuel Merchants & Distributors Status: Active Positional Accuracy: Manually positioned to the road within the address or location	A2NW (SW)	650	-	435589 565390
195	Contemporary Trade Directory Entries Name: Mulheron Interiors Location: 94, Dean Road, South Shields, Tyne and Wear, NE33 4AR Classification: Soft Furnishings - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A8NW (E)	642	-	436743 565938
196	Contemporary Trade Directory Entries Name: Team Hawk Location: Tyne Dock, South Shields, Tyne & Wear, NE34 9PL Classification: Road Haulage Services Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A6SW (SW)	656	-	435472 565478
197	Contemporary Trade Directory Entries Name: Bede Furnishings Ltd Location: Unit 1/5, Redhead Buildings, Garden Lane, South Shields, Tyne and Wear, NE33 1PS Classification: Upholstery Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A15SE (NE)	661	-	436405 566816
197	Contemporary Trade Directory Entries Name: Lawnmower & Power Tool Repair Centre Location: Unit 8, Redhead Buildings, Garden Lane, South Shields, Tyne and Wear, NE33 1PS Classification: Lawnmowers & Garden Machinery - Sales & Service Status: Inactive Positional Accuracy: Automatically positioned to the address	A15SE (NE)	661	-	436405 566816
197	Contemporary Trade Directory Entries Name: Ocean Laundry Services Location: Unit 6/7, Redhead Buildings, Garden Lane, South Shields, Tyne and Wear, NE33 1PS Classification: Laundries & Launderettes Status: Active Positional Accuracy: Automatically positioned to the address	A15SE (NE)	661	-	436405 566816

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
197	Contemporary Trade Directory Entries Name: A C Wrought Iron Location: Unit 1-5, Redhead Buildings, Garden Lane, South Shields, Tyne and Wear, NE33 1PS Classification: Wrought Ironwork Status: Active Positional Accuracy: Automatically positioned to the address	A15SE (NE)	661	-	436405 566816
197	Contemporary Trade Directory Entries Name: Speciality Mirror Shop Location: 9, St. Hilda Street, South Shields, Tyne and Wear, NE33 1QD Classification: Mirrors & Decorative Glass Status: Inactive Positional Accuracy: Automatically positioned to the address	A15SE (NE)	671	-	436435 566807
197	Contemporary Trade Directory Entries Name: Speciality Mirror Shop Location: 9, St. Hilda Street, South Shields, Tyne and Wear, NE33 1QD Classification: Picture & Picture Frame Renovating & Restoring Status: Active Positional Accuracy: Automatically positioned to the address	A15SE (NE)	671	-	436435 566807
198	Contemporary Trade Directory Entries Name: Gas Trade Centre Ltd Location: 48-50, Westoe Road, South Shields, Tyne and Wear, NE33 4NA Classification: Boilers - Servicing, Replacements & Repairs Status: Active Positional Accuracy: Automatically positioned to the address	A11NE (NE)	686	-	436646 566587
198	Contemporary Trade Directory Entries Name: Ironing Maids Location: 26 Westoe Rd, South Shields, Tyne and Wear, NE33 4LZ Classification: Ironing & Home Laundry Services Status: Inactive Positional Accuracy: Manually positioned to the address or location	A11NE (NE)	693	-	436629 566629
199	Contemporary Trade Directory Entries Name: Parkins Motors Location: 16, Hartington Terrace, South Shields, Tyne and Wear, NE33 4DF Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A8NW (E)	690	-	436770 565819
200	Contemporary Trade Directory Entries Name: Team Hawk International Ltd Location: International Ferry Terminal, Royal Quays, North Shields, Tyne & Wear, NE29 6EE Classification: Freight Forwarders Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A9NE (NW)	704	-	435252 566586
201	Contemporary Trade Directory Entries Name: Walter Metcalfe Location: 101, Westoe Road, South Shields, Tyne and Wear, NE33 4LX Classification: Wallpapers & Wall Coverings Status: Active Positional Accuracy: Automatically positioned to the address	A12NW (NE)	706	-	436724 566487
201	Contemporary Trade Directory Entries Name: Gordon Briggs Location: Domestic Appliance Centre, 87, Westoe Road, South Shields, Tyne and Wear, NE33 4LX Classification: Domestic Appliances - Servicing, Repairs & Parts Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (NE)	716	-	436721 566516
202	Contemporary Trade Directory Entries Name: D Woodward Location: Car Dismantlers, Oyston Street, South Shields, Tyne and Wear, NE33 1AT Classification: Scrap Metal Merchants Status: Inactive Positional Accuracy: Automatically positioned in the proximity of the address	A15SW (N)	706	-	436236 566943
203	Contemporary Trade Directory Entries Name: C M C Copier Maintenance Co Location: 1, Forest Road, South Shields, Tyne and Wear, NE33 1PT Classification: Photocopiers Status: Active Positional Accuracy: Automatically positioned to the address	A15SW (N)	708	-	436320 566914

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
204	Contemporary Trade Directory Entries Name: Steve'S Auto Sprays Location: 62, Garden Lane, South Shields, Tyne and Wear, NE33 1PS Classification: Car Body Repairs Status: Inactive Positional Accuracy: Manually positioned to the address or location	A15SE (NE)	715	-	436402 566881
204	Contemporary Trade Directory Entries Name: Truewood Furniture & Joinery Ltd Location: 62, Garden Lane, South Shields, Tyne and Wear, NE33 1PS Classification: Furniture Manufacturers - Home & Office Status: Inactive Positional Accuracy: Manually positioned to the address or location	A15SE (NE)	715	-	436402 566881
204	Contemporary Trade Directory Entries Name: Rolls Location: 62, Garden Lane, South Shields, Tyne and Wear, NE33 1PS Classification: Commercial Cleaning Services Status: Active Positional Accuracy: Automatically positioned to the address	A15SE (NE)	715	-	436402 566881
204	Contemporary Trade Directory Entries Name: R Cars Location: 52-56, Garden Lane, South Shields, Tyne and Wear, NE33 1PS Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Automatically positioned to the address	A15SE (NE)	735	-	436399 566906
205	Contemporary Trade Directory Entries Name: Merry Maids Location: 130, Westoe Road, South Shields, Tyne and Wear, NE33 3PF Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SW (E)	720	-	436807 566278
205	Contemporary Trade Directory Entries Name: Merry Maids Location: 130, Westoe Road, South Shields, Tyne and Wear, NE33 3PF Classification: Cleaning Services - Domestic Status: Active Positional Accuracy: Automatically positioned to the address	A12SW (E)	720	-	436807 566278
205	Contemporary Trade Directory Entries Name: Servicemaster Contract Services Location: 130, Westoe Road, South Shields, Tyne and Wear, NE33 3PF Classification: Commercial Cleaning Services Status: Active Positional Accuracy: Automatically positioned to the address	A12SW (E)	720	-	436807 566278
206	Contemporary Trade Directory Entries Name: Town Hall Service Station Location: Town Hall Filling Station, Crossgate, South Shields, Tyne and Wear, NE33 5QX Classification: Petrol Filling Stations - 24 Hour Status: Inactive Positional Accuracy: Manually positioned to the address or location	A15SE (NE)	721	-	436506 566814
207	Contemporary Trade Directory Entries Name: Bizzy Uk Cleaning Services Location: 146 Westoe Rd, South Shields, Tyne & Wear, NE33 3PH Classification: Cleaning Services - Commercial Status: Inactive Positional Accuracy: Manually positioned to the address or location	A12SW (E)	738	-	436836 566236
208	Contemporary Trade Directory Entries Name: Colourclear Location: 3-4 Forest Rd, South Shields, Tyne and Wear, NE33 1PT Classification: Clothing & Fabrics - Manufacturers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A15SW (N)	742	-	436338 566944
208	Contemporary Trade Directory Entries Name: Automotive Maintenance Co Location: 4 Forest Rd, South Shields, Tyne and Wear, NE33 1PT Classification: Garage Services Status: Active Positional Accuracy: Manually positioned to the address or location	A15SE (NE)	756	-	436355 566952

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
208	Contemporary Trade Directory Entries Name: Vechicle Diagnostics Location: 4 Forest Rd, South Shields, Tyne and Wear, NE33 1PT Classification: Garage Services Status: Inactive Positional Accuracy: Manually positioned to the address or location	A15SE (NE)	756	-	436355 566952
208	Contemporary Trade Directory Entries Name: Colourclear Ltd Location: 3-4, Forest Road, South Shields, Tyne and Wear, NE33 1PT Classification: Clothing & Fabrics - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A15SE (NE)	758	-	436356 566953
209	Contemporary Trade Directory Entries Name: Westoe Electricals Location: 1, Madeira Terrace, South Shields, Tyne and Wear, NE33 3AQ Classification: Electrical Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SW (E)	755	-	436816 566358
210	Contemporary Trade Directory Entries Name: Aston Heating & Gas Services Location: 1, Aston Street, SOUTH SHIELDS, Tyne and Wear, NE33 4UF Classification: Boilers - Servicing, Replacements & Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SW (SE)	756	-	436731 565522
211	Contemporary Trade Directory Entries Name: Applied Mechanical Scotland Ltd Location: Albert Edward Dock, North Shields, Tyne and Wear, NE29 6EE Classification: Engineering Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A9NE (NW)	766	-	435181 566579
211	Contemporary Trade Directory Entries Name: Dfds Transport Location: Albert Edward Dock, North Shields, Tyne and Wear, NE29 6EE Classification: Freight Forwarders Status: Inactive Positional Accuracy: Automatically positioned to the address	A9NE (NW)	767	-	435181 566579
211	Contemporary Trade Directory Entries Name: D S D F Transport (Uk) Ltd Location: Albert Edward Dock, North Shields, Tyne and Wear, NE29 6EE Classification: Freight Forwarders Status: Inactive Positional Accuracy: Automatically positioned to the address	A9NE (NW)	767	-	435181 566579
211	Contemporary Trade Directory Entries Name: Port Of Tyne Authority Location: Coble Dene, Albert Edward Dock, North Shields, Tyne And Wear, NE29 6EE Classification: Ports, Docks & Harbours Status: Active Positional Accuracy: Manually positioned within the geographical locality	A9NE (NW)	767	-	435181 566579
212	Contemporary Trade Directory Entries Name: Lynch Motors Ltd Location: West Way, South Shields, Tyne and Wear, NE33 4SP Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A3NW (S)	770	-	436106 565148
212	Contemporary Trade Directory Entries Name: Lynch Motors Of Parkside Ltd Location: West Way, South Shields, Tyne and Wear, NE33 4SP Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A3NW (S)	770	-	436106 565148
213	Contemporary Trade Directory Entries Name: Leighton Location: 14, Franklin Street, South Shields, Tyne and Wear, NE33 1PR Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A15SE (NE)	783	-	436412 566953
213	Contemporary Trade Directory Entries Name: Vts Location: 12, Franklin Street, South Shields, Tyne and Wear, NE33 1PR Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A15SE (NE)	793	-	436408 566967

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
213	Contemporary Trade Directory Entries Name: Dean Printing Works Location: 11, Franklin Street, South Shields, Tyne and Wear, NE33 1PR Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address	A15SE (NE)	814	-	436444 566971
213	Contemporary Trade Directory Entries Name: Motoreay Services Location: 8, Franklin Street, South Shields, Tyne and Wear, NE33 1PR Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A15SE (NE)	815	-	436407 566993
213	Contemporary Trade Directory Entries Name: Eddie Burke Location: 5, Franklin Street, South Shields, Tyne and Wear, NE33 1PR Classification: Car Body Repairs Status: Active Positional Accuracy: Automatically positioned to the address	A15SE (NE)	832	-	436436 566997
214	Contemporary Trade Directory Entries Name: Sutherlands Location: Coronation St, South Shields, Tyne & Wear, NE33 1AZ Classification: Tyre Dealers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A15SW (N)	800	-	436296 567022
215	Contemporary Trade Directory Entries Name: 1st Call Cleaning Services Location: Westoe Rd, South Shields, Tyne and Wear, NE33 3PW Classification: Commercial Cleaning Services Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A12SW (E)	819	-	436931 566154
216	Contemporary Trade Directory Entries Name: Snug Fit Doors & Windows Location: 2-6 Franklin St, South Shields, Tyne and Wear, NE33 1PR Classification: Window Frames - Sales & Service Status: Inactive Positional Accuracy: Manually positioned to the address or location	A15SE (NE)	839	-	436404 567020
216	Contemporary Trade Directory Entries Name: The Window Fitter Warehouse Location: 2-8, Franklin Street, South Shields, Tyne and Wear, NE33 1PR Classification: Window Frames - Sales & Service Status: Active Positional Accuracy: Automatically positioned to the address	A15SE (NE)	839	-	436404 567020
217	Contemporary Trade Directory Entries Name: Sun Shade Systems Location: Unit 3A Tyne Dock East Side, Port Of Tyne, South Shields, Tyne and Wear, NE33 5SQ Classification: Blinds, Awnings & Canopies Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A2NW (S)	842	-	435619 565158
217	Contemporary Trade Directory Entries Name: Solar Solve Ltd Location: 3a, Tyne Dock East Side, South Shields, Tyne and Wear, NE33 5SQ Classification: Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A2NW (SW)	856	-	435572 565164
217	Contemporary Trade Directory Entries Name: Cast Tec Ltd Location: East Side, Tyne Dock, South Shields, Tyne and Wear, NE33 5SP Classification: Fireplaces & Mantelpieces Status: Active Positional Accuracy: Manually positioned within the geographical locality	A2NW (SW)	880	-	435585 565132
218	Contemporary Trade Directory Entries Name: The Heating Efficiency Showroom Location: 108-110, Fowler Street, South Shields, Tyne and Wear, NE33 1PZ Classification: Fireplaces & Mantelpieces Status: Inactive Positional Accuracy: Automatically positioned to the address	A15SE (NE)	844	-	436528 566953

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
218	Contemporary Trade Directory Entries Name: The Fireplace Centre Location: 106, Fowler Street, South Shields, Tyne and Wear, NE33 1PZ Classification: Fireplaces & Mantelpieces Status: Inactive Positional Accuracy: Automatically positioned to the address	A15SE (NE)	845	-	436523 566957
219	Contemporary Trade Directory Entries Name: A S Autosalvage Location: Charles Taylor Foundry, South Shields, Tyne and Wear, NE33 5SE Classification: Garage Services Status: Active Positional Accuracy: Manually positioned within the geographical locality	A2NW (SW)	858	-	435449 565234
220	Contemporary Trade Directory Entries Name: Frame Clean Location: 100-102, Fowler Street, South Shields, Tyne and Wear, NE33 1PD Classification: Cleaning Services - Commercial Status: Inactive Positional Accuracy: Automatically positioned to the address	A15SE (NE)	863	-	436517 566983
220	Contemporary Trade Directory Entries Name: Fireplace Centre Location: 100-102, Fowler Street, South Shields, Tyne and Wear, NE33 1PD Classification: Distribution Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A15SE (NE)	863	-	436517 566983
220	Contemporary Trade Directory Entries Name: Frank Lake & Sons Ltd Location: 86, Fowler Street, South Shields, Tyne and Wear, NE33 1PD Classification: Hardware Status: Inactive Positional Accuracy: Automatically positioned to the address	A15SE (NE)	892	-	436512 567022
220	Contemporary Trade Directory Entries Name: Re-Design 4 U Location: 84-86, Fowler Street, South Shields, Tyne and Wear, NE33 1PD Classification: Recycling Centres Status: Active Positional Accuracy: Automatically positioned to the address	A15SE (NE)	892	-	436512 567022
220	Contemporary Trade Directory Entries Name: Homefair Blinds Location: 4 Fowler St, South Shields, Tyne And Wear, NE33 1PD Classification: Blinds, Awnings & Canopies Status: Active Positional Accuracy: Manually positioned within the geographical locality	A15SE (NE)	893	-	436512 567022
220	Contemporary Trade Directory Entries Name: Super-Tech International Location: 80-82, Fowler Street, South Shields, Tyne and Wear, NE33 1PD Classification: Mobile Phone Accessories and Car Kits Status: Active Positional Accuracy: Automatically positioned to the address	A15SE (NE)	903	-	436508 567037
220	Contemporary Trade Directory Entries Name: Flair Blinds Ltd Location: 83, Fowler Street, South Shields, Tyne and Wear, NE33 1NT Classification: Blinds, Awnings & Canopies Status: Active Positional Accuracy: Automatically positioned to the address	A15SE (NE)	923	-	436547 567036
221	Contemporary Trade Directory Entries Name: Currys Digital Location: 111, King Street, South Shields, Tyne and Wear, NE33 1DP Classification: Electrical Goods Sales, Manufacturers & Wholesalers Status: Inactive Positional Accuracy: Automatically positioned to the address	A15NW (N)	866	-	436134 567140
221	Contemporary Trade Directory Entries Name: Dickson M I Ltd Location: 107, King Street, South Shields, Tyne and Wear, NE33 1DP Classification: Meat Product Manufacturers & Wholesalers Status: Active Positional Accuracy: Automatically positioned to the address	A15NW (N)	904	-	436128 567181
222	Contemporary Trade Directory Entries Name: Tyne & Wear Heating Services Location: 207, Stanhope Road, South Shields, Tyne and Wear, NE33 4RT Classification: Central Heating Supplies & Equipment Status: Active Positional Accuracy: Automatically positioned to the address	A3NE (SE)	878	-	436478 565132

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
223	Contemporary Trade Directory Entries Name: Abc Motor Co Location: 14-16, Dean Road, South Shields, Tyne and Wear, NE33 3PT Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Automatically positioned to the address	A8NW (E)	879	-	436992 566020
223	Contemporary Trade Directory Entries Name: Picture This Location: 14-16, Dean Road, South Shields, Tyne and Wear, NE33 3PT Classification: Printers Textile Status: Inactive Positional Accuracy: Automatically positioned to the address	A8NW (E)	879	-	436992 566020
224	Contemporary Trade Directory Entries Name: Orchid Games Studios Location: 7 Beach Rd, South Shields, Tyne and Wear, NE33 2QA Classification: Toys, Games & Sporting Goods - Manufacturers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A15SE (NE)	882	-	436608 566939
224	Contemporary Trade Directory Entries Name: At Your Service Location: 7, Beach Road, South Shields, Tyne and Wear, NE33 2QA Classification: Commercial Cleaning Services Status: Active Positional Accuracy: Automatically positioned to the address	A15SE (NE)	882	-	436608 566939
224	Contemporary Trade Directory Entries Name: South Shields Printing Location: 13, Beach Road, South Shields, Tyne and Wear, NE33 2QA Classification: Printers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A15SE (NE)	903	-	436628 566950
224	Contemporary Trade Directory Entries Name: South Shields Printing Location: 13, Beach Road, South Shields, Tyne and Wear, NE33 2QA Classification: Printers Status: Active Positional Accuracy: Automatically positioned to the address	A15SE (NE)	903	-	436628 566950
224	Contemporary Trade Directory Entries Name: Dentures Direct Location: 17a, Beach Road, South Shields, Tyne and Wear, NE33 2QA Classification: Medical & Dental Laboratories Status: Inactive Positional Accuracy: Automatically positioned to the address	A15SE (NE)	915	-	436641 566955
225	Contemporary Trade Directory Entries Name: Currys Location: 87, King Street, South Shields, Tyne and Wear, NE33 1DP Classification: Electrical Goods Sales, Manufacturers & Wholesalers Status: Inactive Positional Accuracy: Automatically positioned to the address	A15NW (N)	912	-	436197 567170
226	Contemporary Trade Directory Entries Name: John Carey Location: 8, William Street, South Shields, Tyne and Wear, NE33 1PQ Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A15SE (N)	915	-	436406 567103
227	Contemporary Trade Directory Entries Name: Tyne & Wear Marine Ltd Location: East Side, Tyne Dock, South Shields, Tyne and Wear, NE33 5SP Classification: Marine Engineers Status: Active Positional Accuracy: Automatically positioned in the proximity of the address	A2SW (S)	925	-	435609 565073
227	Contemporary Trade Directory Entries Name: Adams Location: Navigation House, Tyne Dock, South Shields, Tyne and Wear, NE34 0AB Classification: Road Haulage Services Status: Inactive Positional Accuracy: Manually positioned to the address or location	A2SW (S)	925	-	435608 565073
227	Contemporary Trade Directory Entries Name: Djv Transport Ltd Location: Navigation House, Tyne Dock, South Shields, Tyne & Wear, NE34 9PT Classification: Road Haulage Services Status: Inactive Positional Accuracy: Manually positioned to the address or location	A2SW (S)	926	-	435608 565072

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
228	Contemporary Trade Directory Entries Name: Photo-Fast Location: 64, Fowler Street, South Shields, Tyne and Wear, NE33 1PG Classification: Photographic Processors Status: Inactive Positional Accuracy: Automatically positioned to the address	A15SE (NE)	938	-	436485 567091
228	Contemporary Trade Directory Entries Name: Photo Fast Location: 64, Fowler Street, South Shields, Tyne and Wear, NE33 1PG Classification: Photographic Processors Status: Inactive Positional Accuracy: Automatically positioned to the address	A15SE (NE)	938	-	436485 567091
228	Contemporary Trade Directory Entries Name: Klick Location: 50, Fowler Street, South Shields, Tyne and Wear, NE33 1PG Classification: Photographic Processors Status: Inactive Positional Accuracy: Automatically positioned to the address	A15NE (NE)	973	-	436483 567131
229	Contemporary Trade Directory Entries Name: Intertank Services Ltd Location: 16, Mowbray Road, South Shields, Tyne and Wear, NE33 3AU Classification: Tank Cleaning & Repairing Status: Active Positional Accuracy: Automatically positioned to the address	A12SE (E)	949	-	437038 566299
230	Contemporary Trade Directory Entries Name: A J Edge Ltd Location: Navigation House, Tyne Dock, South Shields, Tyne and Wear, NE34 0AB Classification: Freight Forwarders Status: Inactive Positional Accuracy: Automatically positioned in the proximity of the address	A2SW (SW)	952	-	435517 565085
231	Contemporary Trade Directory Entries Name: The Jewellery Repair Centre Location: 44, Fowler Street, South Shields, Tyne and Wear, NE33 1PG Classification: Jewellery Manufacturers & Repairers Status: Active Positional Accuracy: Automatically positioned to the address	A15NE (NE)	982	-	436477 567143
232	Contemporary Trade Directory Entries Name: Decorflair Location: 39-41, King Street, South Shields, Tyne and Wear, NE33 1DA Classification: Wallpapers & Wall Coverings Status: Inactive Positional Accuracy: Automatically positioned to the address	A15NW (N)	988	-	436312 567214
233	Fuel Station Entries Name: Tcs Town Hall Location: Cross Gate, South Shields, Tyne & Wear, NE33 5QX Brand: Total Premises Type: Petrol Station Status: Open Positional Accuracy: Manually positioned to the address or location	A15SE (NE)	720	-	436508 566812
234	Fuel Station Entries Name: Lynch Motors Of Parkside Location: West Way, West Park, South Shields, Tyne & Wear, NE33 4SP Brand: Unbranded Premises Type: Not Applicable Status: Obsolete Positional Accuracy: Automatically positioned to the address	A3NW (S)	770	-	436105 565148
235	Fuel Station Entries Name: Garden Lane Service Station Location: Garden Lane, South SHIELDS, Tyne & Wear, NE33 1PS Brand: Obsolete Premises Type: Not Applicable Status: Obsolete Positional Accuracy: Manually positioned to the address or location	A15SW (N)	801	-	436297 567023













Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices South Tyneside Metropolitan Borough Council - Neighbourhood Services City of Newcastle upon Tyne Council - Environmental Health Department Sunderland City Metropolitan Borough Council - Environmental Health Department North Tyneside Metropolitan Borough Council - Environmental Health Department	April 2011 February 2011 May 2011 September 2010	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Discharge Consents Environment Agency - North East Region	April 2011	Quarterly
Enforcement and Prohibition Notices Environment Agency - North East Region	July 2011	Quarterly
Integrated Pollution Controls Environment Agency - North East Region	October 2008	Not Applicable
Integrated Pollution Prevention And Control Environment Agency - North East Region	April 2011	Quarterly
Local Authority Integrated Pollution Prevention And Control Sunderland City Metropolitan Borough Council - Environmental Health Department City of Newcastle upon Tyne Council - Environmental Health Department North Tyneside Metropolitan Borough Council - Environmental Health Department South Tyneside Metropolitan Borough Council - Environmental Health Department	August 2010 January 2011 October 2010 October 2010	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Local Authority Pollution Prevention and Controls Sunderland City Metropolitan Borough Council - Environmental Health Department City of Newcastle upon Tyne Council - Environmental Health Department North Tyneside Metropolitan Borough Council - Environmental Health Department South Tyneside Metropolitan Borough Council - Environmental Health Department	August 2010 January 2011 October 2010 October 2010	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements City of Newcastle upon Tyne Council - Environmental Health Department Sunderland City Metropolitan Borough Council - Environmental Health Department North Tyneside Metropolitan Borough Council - Environmental Health Department South Tyneside Metropolitan Borough Council - Environmental Health Department	January 2011 July 2011 October 2010 October 2010	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Nearest Surface Water Feature Ordnance Survey	March 2011	Quarterly
Pollution Incidents to Controlled Waters Environment Agency - North East Region	December 1998	Not Applicable
Prosecutions Relating to Authorised Processes Environment Agency - North East Region	May 2011	Monthly
Prosecutions Relating to Controlled Waters Environment Agency - North East Region	July 2011	Monthly
Registered Radioactive Substances Environment Agency - North East Region	April 2011	Quarterly
River Quality Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points Environment Agency - Head Office	January 2011	Annually
River Quality Chemistry Sampling Points Environment Agency - Head Office	January 2011	Annually
Substantiated Pollution Incident Register Environment Agency - North East Region - North East Area Environment Agency - North East Region - Northumbria Area	April 2011 April 2011	Quarterly Quarterly
Water Abstractions Environment Agency - North East Region	April 2011	Quarterly
Water Industry Act Referrals Environment Agency - North East Region	April 2011	Quarterly

Agency & Hydrological	Version	Update Cycle
Groundwater Vulnerability Environment Agency - Head Office	January 2011	Not Applicable
Drift Deposits Environment Agency - Head Office	January 1999	Not Applicable
Bedrock Aquifer Designations British Geological Survey - National Geoscience Information Service	October 2010	Annually
Superficial Aquifer Designations British Geological Survey - National Geoscience Information Service	October 2010	Annually
Source Protection Zones Environment Agency - Head Office	April 2011	Quarterly
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	April 2011	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	April 2011	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	April 2011	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	April 2011	Quarterly
Flood Defences Environment Agency - Head Office	April 2011	Quarterly
Waste	Version	Update Cycle
BGS Recorded Landfill Sites British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites Environment Agency - North East Region - North East Area Environment Agency - North East Region - Northumbria Area	April 2011 April 2011	Quarterly Quarterly
Integrated Pollution Control Registered Waste Sites Environment Agency - North East Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries) Environment Agency - North East Region - North East Area Environment Agency - North East Region - Northumbria Area	April 2011 April 2011	Quarterly Quarterly
Licensed Waste Management Facilities (Locations) Environment Agency - North East Region - North East Area Environment Agency - North East Region - Northumbria Area	April 2011 April 2011	Quarterly Quarterly
Local Authority Landfill Coverage City of Newcastle upon Tyne Council - Environmental Health Department North Tyneside Metropolitan Borough Council - Environmental Health Department South Tyneside Metropolitan Borough Council - Planning Department Sunderland City Metropolitan Borough Council - Environmental Health Department	May 2000 May 2000 May 2000 May 2000	Not Applicable Not Applicable Not Applicable Not Applicable
Local Authority Recorded Landfill Sites City of Newcastle upon Tyne Council - Environmental Health Department North Tyneside Metropolitan Borough Council - Environmental Health Department South Tyneside Metropolitan Borough Council - Planning Department Sunderland City Metropolitan Borough Council - Environmental Health Department	May 2000 May 2000 May 2000 May 2000	Not Applicable Not Applicable Not Applicable Not Applicable
Registered Landfill Sites Environment Agency - North East Region - Northumbria Area	March 2003	Not Applicable
Registered Waste Transfer Sites Environment Agency - North East Region - Northumbria Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites Environment Agency - North East Region - Northumbria Area	March 2003	Not Applicable

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH) Health and Safety Executive	November 2010	Bi-Annually
Explosive Sites Health and Safety Executive	January 2011	Bi-Annually
Notification of Installations Handling Hazardous Substances (NIHHS) Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements North Tyneside Metropolitan Borough Council - Development Function City of Newcastle upon Tyne Council South Tyneside Metropolitan Borough Council - Planning Department Sunderland City Metropolitan Borough Council - Planning	August 2010 July 2011 June 2011 November 2010	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Planning Hazardous Substance Consents North Tyneside Metropolitan Borough Council - Development Function City of Newcastle upon Tyne Council South Tyneside Metropolitan Borough Council - Planning Department Sunderland City Metropolitan Borough Council - Planning	August 2010 July 2011 June 2010 November 2010	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Geological	Version	Update Cycle
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	April 2011	Bi-Annually
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	August 1996	Not Applicable
Brine Compensation Area Cheshire Brine Subsidence Compensation Board	November 2002	Not Applicable
Coal Mining Affected Areas The Coal Authority - Mining Report Service	January 2006	As notified
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	February 2011	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2010	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2010	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2010	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2010	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2010	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2010	Annually
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	May 2007	As notified
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	May 2007	As notified

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	May 2011	Quarterly
Fuel Station Entries Catalist Ltd - Experian	February 2011	Quarterly
Sensitive Land Use	Version	Update Cycle
Areas of Adopted Green Belt City of Newcastle upon Tyne Council North Tyneside Metropolitan Borough Council South Tyneside Metropolitan Borough Council - Planning Department Sunderland City Metropolitan Borough Council - Planning	May 2011 May 2011 May 2011 May 2011	As notified As notified As notified As notified
Areas of Unadopted Green Belt City of Newcastle upon Tyne Council North Tyneside Metropolitan Borough Council South Tyneside Metropolitan Borough Council - Planning Department Sunderland City Metropolitan Borough Council - Planning	May 2011 May 2011 May 2011 May 2011	As notified As notified As notified As notified
Areas of Outstanding Natural Beauty Natural England	April 2011	Bi-Annually
Environmentally Sensitive Areas Natural England	October 2010	Annually
Forest Parks Forestry Commission	April 1997	Not Applicable
Local Nature Reserves Natural England	March 2011	Bi-Annually
Marine Nature Reserves Natural England	September 2010	Bi-Annually
National Nature Reserves Natural England	March 2011	Bi-Annually
National Parks Natural England	August 2010	Bi-Annually
Nitrate Sensitive Areas Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	March 2003	Not Applicable
Nitrate Vulnerable Zones Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	February 2011	Annually
Ramsar Sites Natural England	March 2011	Bi-Annually
Sites of Special Scientific Interest Natural England	March 2011	Bi-Annually
Special Areas of Conservation Natural England	March 2011	Bi-Annually
Special Protection Areas Natural England	March 2011	Bi-Annually

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	 British Geological Survey <small>NATURAL ENVIRONMENT RESEARCH COUNCIL</small>
Centre for Ecology and Hydrology	 Centre for Ecology & Hydrology <small>NATURAL ENVIRONMENT RESEARCH COUNCIL</small>
Countryside Council for Wales	 CYNGOR CEFN GWLAD CYMRU COUNTRYSIDE COUNCIL FOR WALES
Scottish Natural Heritage	
Natural England	
Health Protection Agency	
Ove Arup	
Peter Brett Associates	

Contact	Name and Address	Contact Details
1	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 08708 506 506 Email: enquiries@environment-agency.gov.uk
2	South Tyneside Metropolitan Borough Council - Environmental Health Department Central Library Building, Prince George Square, South Shields, Tyne And Wear, NE33 2PE	Telephone: 0191 427 1717 Fax: 0191 427 7171 Website: www.s-tyneside-mbc.gov.uk
3	British Geological Survey - Enquiry Service British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
4	Health and Safety Executive HSE Infoline, Caerphilly Business Park, Caerphilly, CF83 3GG	Telephone: 08701 545500 Fax: 02920 859260 Email: hseinformationservices@natbrit.com Website: www.hse.gov.uk
5	South Tyneside Metropolitan Borough Council - Planning Department Town Hall & Civic Offices, Westoe Road, South Shields, Tyne & Wear, NE33 2RL	Telephone: 0191 427 1717 Fax: 0191 427 7171 Website: www.s-tyneside-mbc.gov.uk
6	The Coal Authority - Mining Report Service 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0845 7626848 Email: thecoalauthority@coal.gov.uk
7	Natural England Northminster House, Northminster Road, Peterborough, Cambridgeshire, PE1 1UA	Telephone: 0845 600 3078 Fax: 01733 455103 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
8	North Tyneside Metropolitan Borough Council - Environmental Health Department The Killingworth Site, P O Box 113 Station Road, Killingworth, Newcastle-upon-tyne, Tyne And Wear, NE12 6WJ	Telephone: 0191 2192680 Fax: 0191 270 1127 Website: www.northtyneside.gov.uk
-	Health Protection Agency - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@hpa.org.uk Website: www.hpa.org.uk
-	Landmark Information Group Limited The Smith Centre, Henley On Thames, Oxfordshire, RG9 6AB	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

Please note that the Environment Agency / SEPA have a charging policy in place for enquiries.

Envirocheck[®] Report:

BGS Boreholes Datasheet

Order Details:

Order Number:
35564740_1_1

Customer Reference:
1004469

National Grid Reference:
435990, 566110

Slice:
A

Site Area (Ha):
5.6

Borehole Search Buffer (m):
1000

Site Details:

Residential Development
Trinity South
SOUTH SHIELDS
Tyne and Wear

Client Details:

Mr M Anderson
Cundall
Horsley House
Regent Centre, Gosforth
Newcastle Upon Tyne
NE3 3LU

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m
BGS Boreholes	pg 1	14	71	223	560

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination.

For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.

In the attached datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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A copy of the BGS Borehole Ordering Form is available to download from the Support section of www.envirocheck.co.uk.

Report Version v47.0

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
236	BGS Boreholes BGS Reference: Nz36ne774 Drilled Length (m): 6.1 Borehole Name: Rekendyke, Rank, Bush, Murphy Factory Bt 61/1. Bh 1	A10SE (N)	0	3	435980 566269
236	BGS Boreholes BGS Reference: Nz36ne775 Drilled Length (m): 6.1 Borehole Name: Rekendyke, Rank, Bush, Murphy Factory Bt 61/1. Bh 2	A10SE (N)	0	3	435984 566235
236	BGS Boreholes BGS Reference: Nz36ne782 Drilled Length (m): 6.1 Borehole Name: Rekendyke, Rank, Bush, Murphy Factory Bt 61/1. Bh 9	A10SE (N)	0	3	435970 566278
236	BGS Boreholes BGS Reference: Nz36ne1155 Drilled Length (m): 6.5 Borehole Name: Interconnection Systems Ltd., Eldon St., South Shields 4	A10SE (N)	0	3	436006 566208
237	BGS Boreholes BGS Reference: Nz36ne776 Drilled Length (m): 6.1 Borehole Name: Rekendyke, Rank, Bush, Murphy Factory Bt 61/1. Bh 3	A10SE (N)	0	3	435992 566152
237	BGS Boreholes BGS Reference: Nz36ne783 Drilled Length (m): 2.74 Borehole Name: Rekendyke, Rank, Bush, Murphy Factory Bt 61/1. Bh 10	A10SE (N)	0	3	435975 566185
238	BGS Boreholes BGS Reference: Nz36ne777 Drilled Length (m): 6.1 Borehole Name: Rekendyke, Rank, Bush, Murphy Factory Bt 61/1. Bh 5	A6NE (SW)	0	3	435944 566085
238	BGS Boreholes BGS Reference: Nz36ne1152 Drilled Length (m): 6.5 Borehole Name: Interconnection Systems Ltd., Eldon St., South Shields 1	A6NE (SW)	0	3	435940 566057
238	BGS Boreholes BGS Reference: Nz36ne768 Drilled Length (m): 6.1 Borehole Name: Mary Harris, Factory Bt 60/2, South Shields. Bh 1	A6NE (W)	13	3	435911 566098
238	BGS Boreholes BGS Reference: Nz36ne183/B Drilled Length (m): 6.5 Borehole Name: Taylor Street South Shields Bh2	A6NE (SW)	19	3	435910 566050
238	BGS Boreholes BGS Reference: Nz36ne183/C Drilled Length (m): 6.5 Borehole Name: Taylor Street South Shields Bh3	A6NE (SW)	53	3	435880 566010
239	BGS Boreholes BGS Reference: Nz36ne778 Drilled Length (m): 6.1 Borehole Name: Rekendyke, Rank, Bush, Murphy Factory Bt 61/1. Bh 4	A6NE (S)	0	3	435999 566091
239	BGS Boreholes BGS Reference: Nz36ne1154 Drilled Length (m): 8.5 Borehole Name: Interconnection Systems Ltd., Eldon St., South Shields 3	A7NW (SE)	0	3	436012 566069
240	BGS Boreholes BGS Reference: Nz36ne779 Drilled Length (m): 6.1 Borehole Name: Rekendyke, Rank, Bush, Murphy Factory Bt 61/1. Bh 6	A10SE (NW)	0	3	435938 566146
240	BGS Boreholes BGS Reference: Nz36ne1153 Drilled Length (m): 6.5 Borehole Name: Interconnection Systems Ltd., Eldon St., South Shields 2	A10SE (NW)	0	3	435933 566200
240	BGS Boreholes BGS Reference: Nz36ne770 Drilled Length (m): 6.1 Borehole Name: Mary Harris, Factory Bt 60/2, South Shields. Bh 3	A10SE (NW)	9	3	435905 566171

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
240	BGS Boreholes BGS Reference: Nz36ne769 Drilled Length (m): 6.1 Borehole Name: Mary Harris, Factory Bt 60/2, South Shields. Bh 2	A10SE (NW)	11	3	435906 566146
240	BGS Boreholes BGS Reference: Nz36ne14054/1 Drilled Length (m): 7 Borehole Name: Laygate South Shields 1	A10SE (NW)	21	3	435890 566190
241	BGS Boreholes BGS Reference: Nz36ne780 Drilled Length (m): 6.1 Borehole Name: Rekendyke, Rank, Bush, Murphy Factory Bt 61/1. Bh 7	A10SE (NW)	0	3	435928 566230
241	BGS Boreholes BGS Reference: Nz36ne781 Drilled Length (m): 6.1 Borehole Name: Rekendyke, Rank, Bush, Murphy Factory Bt 61/1. Bh 8	A10SE (NW)	0	3	435926 566264
242	BGS Boreholes BGS Reference: Nz36ne198/B25 Drilled Length (m): 12.34 Borehole Name: Tyneside Sewerage South Shields S25	A10SE (NW)	9	3	435900 566210
243	BGS Boreholes BGS Reference: Nz36ne198/B24 Drilled Length (m): 10.97 Borehole Name: Tyneside Sewerage South Shields S24	A6NE (SW)	12	3	435920 566020
244	BGS Boreholes BGS Reference: Nz36ne297 Drilled Length (m): 3 Borehole Name: South Shields Laygate Tp6	A10SE (NW)	18	3	435883 566265
244	BGS Boreholes BGS Reference: Nz36ne298 Drilled Length (m): 3.7 Borehole Name: South Shields Laygate Tp7	A10SE (NW)	18	3	435888 566230
244	BGS Boreholes BGS Reference: Nz36ne292 Drilled Length (m): 4 Borehole Name: South Shields Laygate Tp1	A10SE (NW)	49	3	435856 566230
244	BGS Boreholes BGS Reference: Nz36ne291 Drilled Length (m): 6.1 Borehole Name: South Shields Laygate 3	A10SE (NW)	54	3	435847 566262
244	BGS Boreholes BGS Reference: Nz36ne294 Drilled Length (m): 3.7 Borehole Name: South Shields Laygate Tp3	A10SE (NW)	58	3	435842 566271
244	BGS Boreholes BGS Reference: Nz36ne295 Drilled Length (m): 3.3 Borehole Name: South Shields Laygate Tp4	A10SE (NW)	77	3	435827 566240
244	BGS Boreholes BGS Reference: Nz36ne289 Drilled Length (m): 6.6 Borehole Name: South Shields Laygate Bh1	A10SE (NW)	79	3	435827 566221
244	BGS Boreholes BGS Reference: Nz36ne290 Drilled Length (m): 7 Borehole Name: South Shields Laygate Bh2	A10SE (NW)	81	3	435819 566263
244	BGS Boreholes BGS Reference: Nz36ne299 Drilled Length (m): 3.9 Borehole Name: South Shields Laygate Tp8	A10SE (NW)	84	3	435817 566258
244	BGS Boreholes BGS Reference: Nz36ne296 Drilled Length (m): 3.2 Borehole Name: South Shields Laygate Tp5	A10SE (NW)	92	3	435817 566204

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
245	BGS Boreholes BGS Reference: Nz36ne183/E Drilled Length (m): 6.5 Borehole Name: Taylor Street South Shields Bh5	A6NE (SW)	28	3	435910 565970
246	BGS Boreholes BGS Reference: Nz36ne14519/Tp3 Drilled Length (m): 2 Borehole Name: South Eldon Street South Shields Tp3	A6NE (S)	39	3	436000 565890
246	BGS Boreholes BGS Reference: Nz36ne14519/Tp1 Drilled Length (m): 2 Borehole Name: South Eldon Street South Shields Tp1	A6NE (S)	44	3	435960 565890
246	BGS Boreholes BGS Reference: Nz36ne14519/Tp4 Drilled Length (m): 2 Borehole Name: South Eldon Street South Shields Tp4	A6NE (S)	79	3	436000 565850
247	BGS Boreholes BGS Reference: Nz36ne293 Drilled Length (m): 4.1 Borehole Name: South Shields Laygate Tp2	A10SE (NW)	55	3	435843 566292
248	BGS Boreholes BGS Reference: Nz36ne455 Drilled Length (m): 1.5 Borehole Name: A194 West Approach South Shields Tps	A7NW (SE)	60	3	436163 566003
248	BGS Boreholes BGS Reference: Nz36ne454 Drilled Length (m): 1.5 Borehole Name: A194 West Approach South Shields Tpr	A7NW (SE)	64	3	436159 565960
248	BGS Boreholes BGS Reference: Nz36ne456 Drilled Length (m): 1.7 Borehole Name: A194 West Approach South Shields Tpt	A7NW (E)	74	3	436185 566042
249	BGS Boreholes BGS Reference: Nz36ne1123 Drilled Length (m): 5 Borehole Name: 40 Drake Close, South Shields 1	A6NE (S)	61	3	435919 565880
249	BGS Boreholes BGS Reference: Nz36ne14519/Tp2 Drilled Length (m): 2 Borehole Name: South Eldon Street South Shields Tp2	A6NE (S)	85	3	435950 565850
249	BGS Boreholes BGS Reference: Nz36ne198/B23 Drilled Length (m): 9.3 Borehole Name: Tyneside Sewerage South Shields S23	A6NE (S)	96	3	435940 565840
250	BGS Boreholes BGS Reference: Nz36ne453 Drilled Length (m): 1.4 Borehole Name: A194 West Approach South Shields Tpq	A7NW (SE)	62	3	436101 565858
250	BGS Boreholes BGS Reference: Nz36ne441 Drilled Length (m): 8.9 Borehole Name: A194 West Approach South Shields 23	A7NW (S)	93	3	436094 565825
251	BGS Boreholes BGS Reference: Nz36ne771 Drilled Length (m): 6.1 Borehole Name: Mary Harris, Factory Bt 60/2, South Shields. Bh 4	A10SE (W)	63	3	435851 566164
251	BGS Boreholes BGS Reference: Nz36ne14054/2 Drilled Length (m): 6 Borehole Name: Laygate South Shields 2	A10SE (NW)	91	3	435820 566190
252	BGS Boreholes BGS Reference: Nz36ne772 Drilled Length (m): 6.1 Borehole Name: Mary Harris, Factory Bt 60/2, South Shields. Bh 5	A10SE (W)	65	3	435853 566140

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
252	BGS Boreholes BGS Reference: Nz36ne773 Drilled Length (m): 6.1 Borehole Name: Mary Harris, Factory Bt 60/2, South Shields. Bh 6	A6NE (W)	66	3	435858 566093
253	BGS Boreholes BGS Reference: Nz36ne457 Drilled Length (m): 1.5 Borehole Name: A194 West Approach South Shields Tpu	A7NW (E)	71	3	436186 566083
253	BGS Boreholes BGS Reference: Nz36ne458 Drilled Length (m): 1 Borehole Name: A194 West Approach South Shields Tpv	A11SW (E)	97	3	436203 566119
254	BGS Boreholes BGS Reference: Nz36ne183/A Drilled Length (m): 6.5 Borehole Name: Taylor Street South Shields Bh1	A6NE (SW)	80	3	435850 566040
255	BGS Boreholes BGS Reference: Nz36ne183/D Drilled Length (m): 6.5 Borehole Name: Taylor Street South Shields Bh4	A6NE (SW)	87	3	435850 565970
255	BGS Boreholes BGS Reference: Nz36ne189/2 Drilled Length (m): 8 Borehole Name: Eldon St Rekendyke S Shields Bh2	A6NE (SW)	124	3	435810 566000
256	BGS Boreholes BGS Reference: Nz36ne13828/3 Drilled Length (m): 26 Borehole Name: Tyneside Rekendyke Bh3	A6NE (SW)	90	3	435880 565870
257	BGS Boreholes BGS Reference: Nz36ne198/B26 Drilled Length (m): 15.24 Borehole Name: Tyneside Sewerage South Shields S26	A10SE (NW)	107	3	435800 566350
258	BGS Boreholes BGS Reference: Nz36ne13875/6 Drilled Length (m): 19 Borehole Name: John Williamson Street, South Shields 6	A7NW (S)	120	3	436110 565800
258	BGS Boreholes BGS Reference: Nz36ne440 Drilled Length (m): 10.35 Borehole Name: A194 West Approach South Shields 22	A7NW (S)	131	3	436078 565788
258	BGS Boreholes BGS Reference: Nz36ne13875/7 Drilled Length (m): 12 Borehole Name: John Williamson Street, South Shields 7	A7SW (S)	159	3	436100 565760
258	BGS Boreholes BGS Reference: Nz36ne442 Drilled Length (m): 13.2 Borehole Name: A194 West Approach South Shields 24	A7SW (S)	172	3	436052 565749
259	BGS Boreholes BGS Reference: Nz36ne13828/E Drilled Length (m): 36 Borehole Name: Tyneside Rekendyke Bhe	A6NE (S)	131	3	435980 565800
260	BGS Boreholes BGS Reference: Nz36ne198/B27 Drilled Length (m): 13.72 Borehole Name: Tyneside Sewerage South Shields S27	A10SE (N)	145	3	435870 566450
261	BGS Boreholes BGS Reference: Nz36ne13828/Q Drilled Length (m): 14 Borehole Name: Tyneside Rekendyke Bhq	A6NE (S)	146	3	435890 565800
262	BGS Boreholes BGS Reference: Nz36ne189/1 Drilled Length (m): 8.5 Borehole Name: Eldon St Rekendyke S Shields Bh1	A6NE (W)	149	3	435780 566050

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
263	BGS Boreholes BGS Reference: Nz36ne189/3 Drilled Length (m): 8 Borehole Name: Eldon St Rekendyke S Shields Bh3	A6NE (SW)	150	3	435790 565940
264	BGS Boreholes BGS Reference: Nz36ne13828/P Drilled Length (m): 17 Borehole Name: Tyneside Rekendyke Bhp	A6NE (SW)	157	3	435810 565850
264	BGS Boreholes BGS Reference: Nz36ne13828/H Drilled Length (m): 22 Borehole Name: Tyneside Rekendyke Bhh	A6NE (SW)	205	3	435780 565810
265	BGS Boreholes BGS Reference: Nz36ne13828/L Drilled Length (m): 20 Borehole Name: Tyneside Rekendyke Bhl	A6SE (S)	185	3	435940 565750
266	BGS Boreholes BGS Reference: Nz36ne189/4 Drilled Length (m): 8 Borehole Name: Eldon St Rekendyke S Shields Bh4	A6NE (SW)	186	3	435750 565980
267	BGS Boreholes BGS Reference: Nz36ne439 Drilled Length (m): 18.15 Borehole Name: A194 West Approach South Shields 21	A7SW (S)	212	3	436031 565712
268	BGS Boreholes BGS Reference: Nz36ne15361/2 Drilled Length (m): 8 Borehole Name: S Shields St Marks Way 2	A11SW (NE)	216	3	436290 566238
268	BGS Boreholes BGS Reference: Nz36ne15361/1 Drilled Length (m): 7 Borehole Name: S Shields St Marks Way 1	A11SW (NE)	222	3	436291 566261
268	BGS Boreholes BGS Reference: Nz36ne15361/3 Drilled Length (m): 8 Borehole Name: S Shields St Marks Way 3	A11SW (NE)	236	3	436306 566259
269	BGS Boreholes BGS Reference: Nz36ne15483/7 Drilled Length (m): 14 Borehole Name: S Shields Garwood St 7	A6NE (SW)	221	3	435728 565876
270	BGS Boreholes BGS Reference: Nz36ne256 Drilled Length (m): 3 Borehole Name: South Shields Portberry Street Tp.Ptb2	A6NE (W)	225	3	435697 566099
270	BGS Boreholes BGS Reference: Nz36ne255 Drilled Length (m): 8 Borehole Name: South Shields Portberry Street Ptb1	A6NE (W)	236	3	435686 566095
270	BGS Boreholes BGS Reference: Nz36ne13854/P4 Drilled Length (m): 7 Borehole Name: S Shields Portberry St, British Shipbuilders Bh4	A10SE (W)	246	3	435670 566140
271	BGS Boreholes BGS Reference: Nz36ne13875/8 Drilled Length (m): 9 Borehole Name: John Williamson Street, South Shields 8	A7SW (S)	232	3	436040 565690
271	BGS Boreholes BGS Reference: Nz36ne452 Drilled Length (m): .45 Borehole Name: A194 West Approach South Shields Tpp	A7SW (S)	232	3	436015 565693
272	BGS Boreholes BGS Reference: Nz36ne257 Drilled Length (m): 3 Borehole Name: South Shields Portberry Street Tp.Ptb3	A6NE (W)	244	3	435679 566085

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
272	BGS Boreholes BGS Reference: Nz36ne258 Drilled Length (m): 2.8 Borehole Name: South Shields Portberry Street Tp.Ptb4	A6NE (W)	250	3	435676 566064
272	BGS Boreholes BGS Reference: Nz36ne259 Drilled Length (m): 2.9 Borehole Name: South Shields Portberry Street Tp.Ptb5	A6NW (W)	261	3	435668 566045
273	BGS Boreholes BGS Reference: Nz36ne438 Drilled Length (m): 27.55 Borehole Name: A194 West Approach South Shields 20	A6SE (S)	245	3	435990 565683
273	BGS Boreholes BGS Reference: Nz36ne13828/M Drilled Length (m): 12 Borehole Name: Tyneside Rekendyke Bhm	A6SE (S)	260	3	435980 565670
273	BGS Boreholes BGS Reference: Nz36ne443 Drilled Length (m): 14 Borehole Name: A194 West Approach South Shields 25	A6SE (S)	273	3	435966 565658
274	BGS Boreholes BGS Reference: Nz36ne13828/Y Drilled Length (m): 23 Borehole Name: Tyneside Rekendyke Bhy	A6SE (S)	246	3	435930 565690
274	BGS Boreholes BGS Reference: Nz36ne13828/Z Drilled Length (m): 20 Borehole Name: Tyneside Rekendyke Bhz	A6SE (S)	267	3	435920 565670
275	BGS Boreholes BGS Reference: Nz36ne189/5 Drilled Length (m): 8 Borehole Name: Eldon St Rekendyke S Shields Bh5	A6NE (SW)	247	3	435690 565960
276	BGS Boreholes BGS Reference: Nz36ne13828/A Drilled Length (m): 23 Borehole Name: Tyneside Rekendyke Bha	A6SE (SW)	248	3	435820 565720
277	BGS Boreholes BGS Reference: Nz36ne13828/K Drilled Length (m): 9 Borehole Name: Tyneside Rekendyke Bhk	A6SE (S)	254	3	435880 565690
278	BGS Boreholes BGS Reference: Nz36ne15483/6 Drilled Length (m): 12 Borehole Name: S Shields Garwood St 6	A6NE (SW)	263	3	435688 565865
278	BGS Boreholes BGS Reference: Nz36ne13828/W Drilled Length (m): 20 Borehole Name: Tyneside Rekendyke Bhw	A6NW (SW)	301	3	435660 565830
278	BGS Boreholes BGS Reference: Nz36ne15483/8 Drilled Length (m): 15 Borehole Name: S Shields Garwood St 8	A6NW (SW)	309	3	435661 565807
278	BGS Boreholes BGS Reference: Nz36ne15483/5 Drilled Length (m): 12 Borehole Name: S Shields Garwood St 5	A6NW (SW)	314	3	435638 565855
279	BGS Boreholes BGS Reference: Nz36ne723 Drilled Length (m): Not Supplied Borehole Name: Laygate Power Station Site South Shields Tp13	A10SW (NW)	263	3	435660 566420
279	BGS Boreholes BGS Reference: Nz36ne706 Drilled Length (m): Not Supplied Borehole Name: Laygate Power Station Site South Shields 3a	A10SW (NW)	277	3	435650 566430

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
279	BGS Boreholes BGS Reference: Nz36ne720 Drilled Length (m): Not Supplied Borehole Name: Laygate Power Station Site South Shields Tp10	A10SW (NW)	278	3	435640 566410
279	BGS Boreholes BGS Reference: Nz36ne705 Drilled Length (m): Not Supplied Borehole Name: Laygate Power Station Site South Shields 2	A10SW (NW)	280	3	435630 566390
279	BGS Boreholes BGS Reference: Nz36ne717 Drilled Length (m): Not Supplied Borehole Name: Laygate Power Station Site South Shields Tp7	A10SW (NW)	280	3	435630 566390
279	BGS Boreholes BGS Reference: Nz36ne726 Drilled Length (m): Not Supplied Borehole Name: Laygate Power Station Site South Shields Tp16	A10SW (NW)	287	3	435630 566410
279	BGS Boreholes BGS Reference: Nz36ne724 Drilled Length (m): Not Supplied Borehole Name: Laygate Power Station Site South Shields Tp14	A10SW (NW)	290	3	435640 566440
279	BGS Boreholes BGS Reference: Nz36ne721 Drilled Length (m): Not Supplied Borehole Name: Laygate Power Station Site South Shields Tp11	A10SW (NW)	300	3	435620 566420
279	BGS Boreholes BGS Reference: Nz36ne707 Drilled Length (m): Not Supplied Borehole Name: Laygate Power Station Site South Shields 4	A10SW (NW)	308	3	435620 566440
279	BGS Boreholes BGS Reference: Nz36ne727 Drilled Length (m): Not Supplied Borehole Name: Laygate Power Station Site South Shields Tp17	A10SW (NW)	308	3	435620 566440
280	BGS Boreholes BGS Reference: Nz36ne346 Drilled Length (m): 17.37 Borehole Name: Redheads Shipyard High Shields Bh14	A10SW (NW)	266	3	435662 566429
280	BGS Boreholes BGS Reference: Nz36ne343 Drilled Length (m): 15.3 Borehole Name: Redheads Shipyard High Shields Bh12	A10SW (NW)	312	3	435616 566441
281	BGS Boreholes BGS Reference: Nz36ne37/3 Drilled Length (m): 7.62 Borehole Name: Middle Dock And Engineering Co 3	A10SE (NW)	269	3	435670 566450
281	BGS Boreholes BGS Reference: Nz36ne37/6 Drilled Length (m): 9.14 Borehole Name: Middle Dock And Engineering Co 6	A10NE (NW)	284	3	435680 566490
282	BGS Boreholes BGS Reference: Nz36ne13828/2 Drilled Length (m): 35 Borehole Name: Tyneside Rekendyke Bh2	A6SE (SW)	269	3	435730 565770
283	BGS Boreholes BGS Reference: Nz36ne13875/5 Drilled Length (m): 13 Borehole Name: John Williamson Street, South Shields 5	A7SW (S)	273	3	436030 565650
284	BGS Boreholes BGS Reference: Nz36ne13854/P5 Drilled Length (m): 10 Borehole Name: S Shields Portberry St, British Shipbuilders 5	A10SW (W)	273	3	435640 566160
284	BGS Boreholes BGS Reference: Nz36ne13854/P3 Drilled Length (m): 7 Borehole Name: S Shields Portberry St, British Shipbuilders 3	A10SW (W)	287	3	435630 566130

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
284	BGS Boreholes BGS Reference: Nz36ne13854/P8 Drilled Length (m): 9 Borehole Name: S Shields Portberry St, British Shipbuilders 8	A10SW (W)	294	3	435620 566150
284	BGS Boreholes BGS Reference: Nz36ne13854/P2 Drilled Length (m): 8 Borehole Name: S Shields Portberry St, British Shipbuilders 2	A10SW (W)	317	3	435600 566130
284	BGS Boreholes BGS Reference: Nz36ne13854/P1 Drilled Length (m): 10 Borehole Name: S Shields Portberry St, British Shipbuilders 1	A10SW (W)	335	3	435580 566140
285	BGS Boreholes BGS Reference: Nz36ne198/B28 Drilled Length (m): 14.63 Borehole Name: Tyneside Sewerage South Shields S28	A10NE (N)	275	3	435930 566580
286	BGS Boreholes BGS Reference: Nz36ne344 Drilled Length (m): 16.24 Borehole Name: Redheads Shipyard High Shields Bh11	A10SW (NW)	283	3	435626 566384
286	BGS Boreholes BGS Reference: Nz36ne345 Drilled Length (m): 16.24 Borehole Name: Redheads Shipyard High Shields Bh13	A10SW (NW)	283	3	435626 566384
286	BGS Boreholes BGS Reference: Nz36ne339 Drilled Length (m): 13.56 Borehole Name: Redheads Shipyard High Shields Bh7	A10SW (NW)	294	3	435610 566365
286	BGS Boreholes BGS Reference: Nz36ne341 Drilled Length (m): 12.53 Borehole Name: Redheads Shipyard High Shields Bh10	A10SW (NW)	302	3	435605 566381
286	BGS Boreholes BGS Reference: Nz36ne342 Drilled Length (m): 11.92 Borehole Name: Redheads Shipyard High Shields Bh9	A10SW (NW)	326	3	435583 566393
287	BGS Boreholes BGS Reference: Nz36ne340 Drilled Length (m): 14.02 Borehole Name: Redheads Shipyard High Shields Bh8	A10SW (NW)	293	3	435606 566335
287	BGS Boreholes BGS Reference: Nz36ne347 Drilled Length (m): 12.93 Borehole Name: Redheads Shipyard High Shields Bh4	A10SW (NW)	320	3	435578 566315
287	BGS Boreholes BGS Reference: Nz36ne338 Drilled Length (m): 12.5 Borehole Name: Redheads Shipyard High Shields Bh6	A10SW (NW)	333	3	435571 566369
288	BGS Boreholes BGS Reference: Nz36ne714 Drilled Length (m): Not Supplied Borehole Name: Laygate Power Station Site South Shields Tp4	A10SW (NW)	295	3	435610 566370
288	BGS Boreholes BGS Reference: Nz36ne718 Drilled Length (m): Not Supplied Borehole Name: Laygate Power Station Site South Shields Tp8	A10SW (NW)	303	3	435610 566400
288	BGS Boreholes BGS Reference: Nz36ne704 Drilled Length (m): Not Supplied Borehole Name: Laygate Power Station Site South Shields 1	A10SW (NW)	305	3	435600 566370
288	BGS Boreholes BGS Reference: Nz36ne711 Drilled Length (m): Not Supplied Borehole Name: Laygate Power Station Site South Shields Tp1	A10SW (NW)	313	3	435590 566360

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
289	BGS Boreholes BGS Reference: Nz36ne15483/4 Drilled Length (m): 11 Borehole Name: S Shields Garwood St 4	A6NW (SW)	296	3	435648 565893
290	BGS Boreholes BGS Reference: Nz36ne13854/P6 Drilled Length (m): 9 Borehole Name: S Shields Portberry St, British Shipbuilders 6	A10SW (W)	299	3	435610 566190
291	BGS Boreholes BGS Reference: Nz36ne15483/10 Drilled Length (m): 14 Borehole Name: S Shields Garwood St 10	A6SE (SW)	302	3	435695 565762
291	BGS Boreholes BGS Reference: Nz36ne13828/R Drilled Length (m): 25 Borehole Name: Tyneside Rekendyke Bhr	A6SE (SW)	309	3	435720 565720
292	BGS Boreholes BGS Reference: Nz36ne323 Drilled Length (m): 12.5 Borehole Name: Police H.Q. Station Road, South Shields 21	A10NE (N)	304	3	435980 566600
292	BGS Boreholes BGS Reference: Nz36ne13729/1 Drilled Length (m): 18 Borehole Name: South Shields Station Industrial Estate Bh1	A10NE (N)	341	3	435970 566640
293	BGS Boreholes BGS Reference: Nz36ne437 Drilled Length (m): 10.65 Borehole Name: A194 West Approach South Shields 19	A6SE (S)	304	3	435974 565626
293	BGS Boreholes BGS Reference: Nz36ne13828/F Drilled Length (m): 11 Borehole Name: Tyneside Rekendyke Bhf	A6SE (S)	324	3	435940 565610
293	BGS Boreholes BGS Reference: Nz36ne436 Drilled Length (m): 15 Borehole Name: A194 West Approach South Shields 18	A6SE (S)	334	3	435961 565597
294	BGS Boreholes BGS Reference: Nz36ne37/9 Drilled Length (m): 18.29 Borehole Name: Middle Dock And Engineering Co 9	A10NE (NW)	305	3	435700 566540
294	BGS Boreholes BGS Reference: Nz36ne37/10 Drilled Length (m): 12.8 Borehole Name: Middle Dock And Engineering Co 10	A10NE (NW)	313	3	435700 566550
294	BGS Boreholes BGS Reference: Nz36ne37/8 Drilled Length (m): 15.24 Borehole Name: Middle Dock And Engineering Co 8	A10NE (NW)	326	3	435680 566550
294	BGS Boreholes BGS Reference: Nz36ne37/7 Drilled Length (m): 15.54 Borehole Name: Middle Dock And Engineering Co 7	A10NE (NW)	348	3	435670 566570
295	BGS Boreholes BGS Reference: Nz36ne767 Drilled Length (m): 1.9 Borehole Name: Factory Bt 7/1. Bh E	A11NW (NE)	305	3	436272 566462
295	BGS Boreholes BGS Reference: Nz36ne765 Drilled Length (m): 1.1 Borehole Name: Factory Bt 7/1. Bh C	A11NW (NE)	307	3	436281 566455
295	BGS Boreholes BGS Reference: Nz36ne766 Drilled Length (m): .8 Borehole Name: Factory Bt 7/1. Bh D	A11NW (NE)	328	3	436273 566495

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
296	BGS Boreholes BGS Reference: Nz36ne198/B28a Drilled Length (m): 6.86 Borehole Name: Tyneside Sewerage South Shields B28a	A11NW (N)	306	3	436020 566590
296	BGS Boreholes BGS Reference: Nz36ne325 Drilled Length (m): 9.5 Borehole Name: Police H.Q. Station Road, South Shields 23	A11NW (N)	354	3	436020 566640
297	BGS Boreholes BGS Reference: Nz36ne13828/J Drilled Length (m): 14 Borehole Name: Tyneside Rekendyke Bhj	A6SE (S)	307	3	435860 565640
298	BGS Boreholes BGS Reference: Nz36ne324 Drilled Length (m): 12.7 Borehole Name: Police H.Q. Station Road, South Shields 22	A11NW (N)	309	3	436030 566590
298	BGS Boreholes BGS Reference: Nz36ne327 Drilled Length (m): 15 Borehole Name: Police H.Q. Station Road, South Shields 25	A11NW (N)	353	3	436050 566630
299	BGS Boreholes BGS Reference: Nz36ne715 Drilled Length (m): Not Supplied Borehole Name: Laygate Power Station Site South Shields Tp5	A10SW (NW)	309	3	435600 566390
299	BGS Boreholes BGS Reference: Nz36ne712 Drilled Length (m): Not Supplied Borehole Name: Laygate Power Station Site South Shields Tp2	A10SW (NW)	324	3	435580 566370
299	BGS Boreholes BGS Reference: Nz36ne722 Drilled Length (m): Not Supplied Borehole Name: Laygate Power Station Site South Shields Tp12	A10SW (NW)	335	3	435590 566440
299	BGS Boreholes BGS Reference: Nz36ne719 Drilled Length (m): Not Supplied Borehole Name: Laygate Power Station Site South Shields Tp9	A10SW (NW)	337	3	435580 566420
299	BGS Boreholes BGS Reference: Nz36ne713 Drilled Length (m): Not Supplied Borehole Name: Laygate Power Station Site South Shields Tp3	A10SW (NW)	338	3	435570 566390
299	BGS Boreholes BGS Reference: Nz36ne709 Drilled Length (m): Not Supplied Borehole Name: Laygate Power Station Site South Shields 5a	A10SW (NW)	341	3	435580 566430
299	BGS Boreholes BGS Reference: Nz36ne708 Drilled Length (m): Not Supplied Borehole Name: Laygate Power Station Site South Shields 5	A10SW (NW)	347	3	435570 566420
299	BGS Boreholes BGS Reference: Nz36ne710 Drilled Length (m): Not Supplied Borehole Name: Laygate Power Station Site South Shields 6a	A10SW (NW)	350	3	435560 566400
299	BGS Boreholes BGS Reference: Nz36ne716 Drilled Length (m): Not Supplied Borehole Name: Laygate Power Station Site South Shields Tp6	A10SW (NW)	353	3	435560 566410
300	BGS Boreholes BGS Reference: Nz36ne13828/G Drilled Length (m): 25 Borehole Name: Tyneside Rekendyke Bhg	A6SE (SW)	310	3	435680 565770
300	BGS Boreholes BGS Reference: Nz36ne15483/9 Drilled Length (m): 14 Borehole Name: S Shields Garwood St 9	A6SW (SW)	326	3	435659 565773

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
301	BGS Boreholes BGS Reference: Nz36ne28/D Drilled Length (m): 1.45 Borehole Name: Horton Coll Railway S Shields	A7NE (SE)	311	3	436400 565900
301	BGS Boreholes BGS Reference: Nz36ne547 Drilled Length (m): 1.2 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ta10	A7NE (SE)	338	3	436432 565926
301	BGS Boreholes BGS Reference: Nz36ne550 Drilled Length (m): 1.7 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ta13	A7NE (SE)	340	3	436422 565864
301	BGS Boreholes BGS Reference: Nz36ne570 Drilled Length (m): .45 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ha7	A7NE (SE)	348	3	436436 565891
302	BGS Boreholes BGS Reference: Nz36ne326 Drilled Length (m): 13 Borehole Name: Police H.Q. Station Road, South Shields 24	A11NW (N)	318	3	436060 566590
302	BGS Boreholes BGS Reference: Nz36ne328 Drilled Length (m): 14 Borehole Name: Police H.Q. Station Road, South Shields 26	A11NW (N)	339	3	436100 566600
302	BGS Boreholes BGS Reference: Nz36ne330 Drilled Length (m): 11.5 Borehole Name: Police H.Q. Station Road, South Shields 28a	A11NW (N)	373	3	436120 566630
302	BGS Boreholes BGS Reference: Nz36ne329 Drilled Length (m): 15 Borehole Name: Police H.Q. Station Road, South Shields 27	A11NW (N)	377	3	436100 566640
303	BGS Boreholes BGS Reference: Nz36ne13854/P7 Drilled Length (m): 15 Borehole Name: S Shields Portberry St, British Shipbuilders 7	A10SW (W)	321	3	435590 566170
304	BGS Boreholes BGS Reference: Nz36ne543 Drilled Length (m): 2.1 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ta7	A11SE (E)	321	3	436421 566177
304	BGS Boreholes BGS Reference: Nz36ne545 Drilled Length (m): .9 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ta8	A11SE (E)	327	3	436434 566150
305	BGS Boreholes BGS Reference: Nz36ne725 Drilled Length (m): Not Supplied Borehole Name: Laygate Power Station Site South Shields Tp15	A10SW (NW)	321	3	435610 566450
306	BGS Boreholes BGS Reference: Nz36ne13854/A4 Drilled Length (m): 16 Borehole Name: S Shields Anderson St, British Shipbuilders 4	A6NW (W)	324	3	435610 565990
306	BGS Boreholes BGS Reference: Nz36ne13854/A2 Drilled Length (m): 14 Borehole Name: S Shields Anderson St, British Shipbuilders 2	A6NW (SW)	329	3	435610 565940
307	BGS Boreholes BGS Reference: Nz36ne563 Drilled Length (m): .25 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ha1	A7NE (E)	324	3	436438 566105
308	BGS Boreholes BGS Reference: Nz36ne565 Drilled Length (m): .25 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ha3	A7NE (E)	326	3	436438 566027

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
308	BGS Boreholes BGS Reference: Nz36ne564 Drilled Length (m): .8 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ha2	A7NE (E)	331	3	436446 566050
308	BGS Boreholes BGS Reference: Nz36ne566 Drilled Length (m): 1.9 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ha4	A7NE (E)	338	3	436447 566007
309	BGS Boreholes BGS Reference: Nz36ne13828/T Drilled Length (m): 33 Borehole Name: Tyneside Rekendyke Bht	A6SE (S)	327	3	435920 565610
310	BGS Boreholes BGS Reference: Nz36ne37/5 Drilled Length (m): 12.19 Borehole Name: Middle Dock And Engineering Co 5	A10NW (NW)	328	3	435640 566510
310	BGS Boreholes BGS Reference: Nz36ne37/2 Drilled Length (m): 17.22 Borehole Name: Middle Dock And Engineering Co 2	A10NW (NW)	333	3	435620 566490
310	BGS Boreholes BGS Reference: Nz36ne37/4 Drilled Length (m): 17.09 Borehole Name: Middle Dock And Engineering Co 4	A10NW (NW)	362	3	435620 566540
311	BGS Boreholes BGS Reference: Nz36ne541 Drilled Length (m): 2.9 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ta5	A11SE (E)	329	3	436403 566241
311	BGS Boreholes BGS Reference: Nz36ne540 Drilled Length (m): 3.1 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ta4	A11SE (NE)	336	3	436403 566283
311	BGS Boreholes BGS Reference: Nz36ne544 Drilled Length (m): 2.6 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ta7a	A11SE (E)	340	3	436434 566197
311	BGS Boreholes BGS Reference: Nz36ne542 Drilled Length (m): 2.55 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ta6	A11SE (E)	348	3	436422 566241
312	BGS Boreholes BGS Reference: Nz36ne516 Drilled Length (m): 16.97 Borehole Name: Tyne Metro Railway, South Shields Section Ba22	A7NE (E)	331	3	436430 565953
313	BGS Boreholes BGS Reference: Nz36ne28/C Drilled Length (m): 1.45 Borehole Name: Horton Coll Railway S Shields	A7NE (SE)	335	3	436400 565800
313	BGS Boreholes BGS Reference: Nz36ne572 Drilled Length (m): .75 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ha7b	A7NE (SE)	359	3	436426 565801
314	BGS Boreholes BGS Reference: Nz36ne202 Drilled Length (m): Not Supplied Borehole Name: Westoe Colliery South Shields Bh	A7SW (SE)	336	3	436290 565650
315	BGS Boreholes BGS Reference: Nz36ne539 Drilled Length (m): 3.2 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ta3	A11SE (NE)	336	3	436385 566338
315	BGS Boreholes BGS Reference: Nz36ne515 Drilled Length (m): 7.6 Borehole Name: Tyne Metro Railway, South Shields Section Ba21	A11SE (NE)	349	3	436400 566335

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
315	BGS Boreholes BGS Reference: Nz36ne514 Drilled Length (m): 9 Borehole Name: Tyne Metro Railway, South Shields Section Ba20	A11SE (NE)	361	3	436400 566366
316	BGS Boreholes BGS Reference: Nz36ne13828/N Drilled Length (m): 15 Borehole Name: Tyneside Rekendyke Bhn	A6SE (S)	337	3	435800 565630
316	BGS Boreholes BGS Reference: Nz36ne13828/D Drilled Length (m): 13 Borehole Name: Tyneside Rekendyke Bhd	A6SE (S)	352	3	435810 565610
316	BGS Boreholes BGS Reference: Nz36ne13828/U Drilled Length (m): 23 Borehole Name: Tyneside Rekendyke Bhu	A6SE (S)	378	3	435790 565590
317	BGS Boreholes BGS Reference: Nz36ne15483/3 Drilled Length (m): 14 Borehole Name: S Shields Garwood St 3	A6NW (SW)	337	3	435610 565876
317	BGS Boreholes BGS Reference: Nz36ne15483/1 Drilled Length (m): 14 Borehole Name: S Shields Garwood St 1	A6NW (SW)	362	3	435582 565894
317	BGS Boreholes BGS Reference: Nz36ne15483/2 Drilled Length (m): 13 Borehole Name: S Shields Garwood St 2	A6NW (SW)	374	3	435574 565865
318	BGS Boreholes BGS Reference: Nz36ne553 Drilled Length (m): 2.6 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ta15	A7SE (SE)	339	3	436351 565705
318	BGS Boreholes BGS Reference: Nz36ne552 Drilled Length (m): 1.3 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ta14	A7SE (SE)	346	3	436382 565737
318	BGS Boreholes BGS Reference: Nz36ne578 Drilled Length (m): 1.75 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ha10	A7SE (SE)	357	3	436373 565705
319	BGS Boreholes BGS Reference: Nz36ne517 Drilled Length (m): 5.35 Borehole Name: Tyne Metro Railway, South Shields Section Ba23	A7SW (SE)	340	3	436304 565656
319	BGS Boreholes BGS Reference: Nz36ne579 Drilled Length (m): 1.85 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ha11	A7SE (SE)	358	3	436347 565672
319	BGS Boreholes BGS Reference: Nz36ne581 Drilled Length (m): 2 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ha12	A7SW (SE)	361	3	436312 565636
319	BGS Boreholes BGS Reference: Nz36ne580 Drilled Length (m): 1 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ha11a	A7SE (SE)	363	3	436350 565668
319	BGS Boreholes BGS Reference: Nz36ne582 Drilled Length (m): 1 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ha12a	A7SW (SE)	366	3	436312 565630
320	BGS Boreholes BGS Reference: Nz36ne568 Drilled Length (m): .65 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ha5a	A7NE (E)	341	3	436444 565977

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
320	BGS Boreholes BGS Reference: Nz36ne567 Drilled Length (m): 1.1 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ha5	A7NE (E)	344	3	436447 565977
320	BGS Boreholes BGS Reference: Nz36ne569 Drilled Length (m): 2 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ha6	A7NE (E)	348	3	436448 565957
320	BGS Boreholes BGS Reference: Nz36ne546 Drilled Length (m): 2.3 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ta9	A7NE (E)	363	3	436466 565976
321	BGS Boreholes BGS Reference: Nz36ne13828/4 Drilled Length (m): 29 Borehole Name: Tyneside Rekendyke Bh4	A6SE (SW)	347	3	435760 565640
322	BGS Boreholes BGS Reference: Nz36ne13854/A1 Drilled Length (m): 15 Borehole Name: S Shields Anderson St, British Shipbuilders 1	A6NW (W)	347	3	435590 565960
322	BGS Boreholes BGS Reference: Nz36ne13854/A3 Drilled Length (m): 16 Borehole Name: S Shields Anderson St, British Shipbuilders 3	A6NW (W)	389	3	435550 565940
323	BGS Boreholes BGS Reference: Nz36ne575 Drilled Length (m): Not Supplied Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ha8b	A7SE (SE)	350	3	436383 565731
323	BGS Boreholes BGS Reference: Nz36ne576 Drilled Length (m): Not Supplied Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ha9	A7SE (SE)	359	3	436389 565725
323	BGS Boreholes BGS Reference: Nz36ne574 Drilled Length (m): Not Supplied Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ha8a	A7SE (SE)	362	3	436398 565733
324	BGS Boreholes BGS Reference: Nz36ne336 Drilled Length (m): 13.11 Borehole Name: Redheads Shipyard High Shields Bh3	A10SW (NW)	360	3	435539 566338
324	BGS Boreholes BGS Reference: Nz36ne334 Drilled Length (m): 10.06 Borehole Name: Redheads Shipyard High Shields Bh1	A10SW (NW)	396	3	435503 566330
325	BGS Boreholes BGS Reference: Nz36ne518 Drilled Length (m): 20.32 Borehole Name: Tyne Metro Railway, South Shields Section Ba24	A7SW (SE)	361	3	436269 565606
325	BGS Boreholes BGS Reference: Nz36ne519 Drilled Length (m): 10.15 Borehole Name: Tyne Metro Railway, South Shields Section Ba24a	A7SW (SE)	382	3	436245 565570
326	BGS Boreholes BGS Reference: Nz36ne548 Drilled Length (m): 2.2 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ta11	A7NE (SE)	361	3	436452 565907
326	BGS Boreholes BGS Reference: Nz36ne549 Drilled Length (m): 3.1 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ta12	A7NE (SE)	366	3	436450 565870
327	BGS Boreholes BGS Reference: Nz36ne37/1 Drilled Length (m): 9.3 Borehole Name: Middle Dock And Engineering Co 1	A10NW (NW)	363	3	435590 566500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
328	BGS Boreholes BGS Reference: Nz36ne763 Drilled Length (m): .8 Borehole Name: Factory Bt 7/1. Bh A	A11NW (NE)	368	3	436302 566523
328	BGS Boreholes BGS Reference: Nz36ne764 Drilled Length (m): 2.8 Borehole Name: Factory Bt 7/1. Bh B	A11NW (NE)	376	3	436292 566544
329	BGS Boreholes BGS Reference: Nz36ne513 Drilled Length (m): 15.04 Borehole Name: Tyne Metro Railway, South Shields Section Ba19	A11SE (NE)	372	3	436400 566390
330	BGS Boreholes BGS Reference: Nz36ne13828/V Drilled Length (m): 16 Borehole Name: Tyneside Rekendyke Bhv	A6SE (SW)	375	3	435740 565620
330	BGS Boreholes BGS Reference: Nz36ne13828/B Drilled Length (m): 23 Borehole Name: Tyneside Rekendyke Bhb	A6SE (SW)	422	3	435700 565590
331	BGS Boreholes BGS Reference: Nz36ne337 Drilled Length (m): 6.71 Borehole Name: Redheads Shipyard High Shields Bh5	A10SW (NW)	375	3	435533 566392
331	BGS Boreholes BGS Reference: Nz36ne335 Drilled Length (m): 7.62 Borehole Name: Redheads Shipyard High Shields Bh2	A10SW (NW)	383	3	435519 566361
332	BGS Boreholes BGS Reference: Nz36ne520 Drilled Length (m): 11.8 Borehole Name: Tyne Metro Railway, South Shields Section Ba25	A7SW (SE)	376	3	436230 565570
333	BGS Boreholes BGS Reference: Nz36ne435 Drilled Length (m): 17.7 Borehole Name: A194 West Approach South Shields 17	A6SE (S)	380	3	435931 565555
334	BGS Boreholes BGS Reference: Nz36ne583 Drilled Length (m): 1 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ha12b	A7SW (SE)	382	3	436278 565587
335	BGS Boreholes BGS Reference: Nz36ne554 Drilled Length (m): Not Supplied Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ta16	A7SW (SE)	386	3	436244 565566
336	BGS Boreholes BGS Reference: Nz36ne13828/S Drilled Length (m): 29 Borehole Name: Tyneside Rekendyke Bhs	A6SE (SW)	387	3	435670 565660
336	BGS Boreholes BGS Reference: Nz36ne97/C Drilled Length (m): 11.28 Borehole Name: Templeton South Shields C	A6SW (SW)	423	3	435630 565650
337	BGS Boreholes BGS Reference: Nz36ne13729/4 Drilled Length (m): 12 Borehole Name: South Shields Station Industrial Estate Bh4	A11NW (N)	394	3	436060 566670
337	BGS Boreholes BGS Reference: Nz36ne13729/3 Drilled Length (m): 12 Borehole Name: South Shields Station Industrial Estate Bh3	A11NW (N)	411	3	436020 566700
337	BGS Boreholes BGS Reference: Nz36ne13729/6 Drilled Length (m): 13 Borehole Name: South Shields Station Industrial Estate Bh6	A11NW (N)	433	3	436060 566710

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
338	BGS Boreholes BGS Reference: Nz36ne332 Drilled Length (m): 13 Borehole Name: Police H.Q. Station Road, South Shields 30a	A11NW (N)	398	3	436170 566640
338	BGS Boreholes BGS Reference: Nz36ne333 Drilled Length (m): 13.5 Borehole Name: Police H.Q. Station Road, South Shields 31	A11NW (N)	426	3	436170 566670
339	BGS Boreholes BGS Reference: Nz36ne75 Drilled Length (m): 9.16 Borehole Name: Shaft A West Park South Shields	A7SW (SE)	399	3	436240 565550
340	BGS Boreholes BGS Reference: Nz36ne13729/2 Drilled Length (m): 19 Borehole Name: South Shields Station Industrial Estate Bh2	A10NE (N)	401	3	435980 566700
341	BGS Boreholes BGS Reference: Nz36ne134/10 Drilled Length (m): 23.92 Borehole Name: Middle Docks South Shields Bh10	A10NE (NW)	403	3	435678 566645
342	BGS Boreholes BGS Reference: Nz36ne109/3 Drilled Length (m): 12.95 Borehole Name: Smith Dock High Shields Bh3	A10SW (W)	407	3	435510 566120
343	BGS Boreholes BGS Reference: Nz36ne14 Drilled Length (m): 42.16 Borehole Name: No2 Or Upcast Staple Pit U/G Bh	A11NW (NE)	413	3	436250 566620
344	BGS Boreholes BGS Reference: Nz36ne13828/C Drilled Length (m): 20 Borehole Name: Tyneside Rekendyke Bhc	A6SE (S)	413	3	435770 565560
345	BGS Boreholes BGS Reference: Nz36ne109/14 Drilled Length (m): 5.94 Borehole Name: Smith Dock High Shields Bh14	A6NW (W)	415	3	435510 566060
346	BGS Boreholes BGS Reference: Nz36ne511 Drilled Length (m): 13 Borehole Name: Tyne Metro Railway, South Shields Section Ba17	A11NE (NE)	416	3	436396 566479
346	BGS Boreholes BGS Reference: Nz36ne512 Drilled Length (m): 25.25 Borehole Name: Tyne Metro Railway, South Shields Section Ba18	A11NE (NE)	416	3	436396 566479
347	BGS Boreholes BGS Reference: Nz36ne331 Drilled Length (m): 14 Borehole Name: Police H.Q. Station Road, South Shields 29	A11NW (N)	417	3	436140 566670
347	BGS Boreholes BGS Reference: Nz36ne13729/5 Drilled Length (m): 12 Borehole Name: South Shields Station Industrial Estate Bh5	A11NW (N)	428	3	436110 566690
347	BGS Boreholes BGS Reference: Nz36ne13729/9 Drilled Length (m): 11 Borehole Name: South Shields Station Industrial Estate Bh9	A11NW (N)	454	3	436100 566720
347	BGS Boreholes BGS Reference: Nz36ne13729/10 Drilled Length (m): 19 Borehole Name: South Shields Station Industrial Estate Bh10	A11NW (N)	465	3	436140 566720
348	BGS Boreholes BGS Reference: Nz36ne584 Drilled Length (m): .8 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ha12c	A7SW (S)	426	3	436209 565510

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349	BGS Boreholes BGS Reference: Nz36ne434 Drilled Length (m): 4.7 Borehole Name: A194 West Approach South Shields 16	A6SE (S)	433	3	435906 565504
349	BGS Boreholes BGS Reference: Nz36ne451 Drilled Length (m): .85 Borehole Name: A194 West Approach South Shields Tpo	A6SE (S)	451	3	435872 565491
349	BGS Boreholes BGS Reference: Nz36ne450 Drilled Length (m): 1.35 Borehole Name: A194 West Approach South Shields Tpn	A6SE (S)	486	3	435866 565456
350	BGS Boreholes BGS Reference: Nz36ne1319 Drilled Length (m): 6 Borehole Name: Temple Town, Tyne Dock, South Shields 2	A6NW (SW)	435	3	435520 565827
351	BGS Boreholes BGS Reference: Nz36ne521 Drilled Length (m): 13.14 Borehole Name: Tyne Metro Railway, South Shields Section Ba25a	A7SW (S)	436	3	436203 565498
352	BGS Boreholes BGS Reference: Nz36ne97/E Drilled Length (m): 9.75 Borehole Name: Templeton South Shields E	A6SW (SW)	438	3	435610 565650
352	BGS Boreholes BGS Reference: Nz36ne97/B Drilled Length (m): 9.14 Borehole Name: Templeton South Shields B	A6SW (SW)	447	3	435590 565660
353	BGS Boreholes BGS Reference: Nz36ne45 Drilled Length (m): 28.98 Borehole Name: S Of Hilda Pit South Shields U/G Bh	A11NW (NE)	441	3	436251 566652
354	BGS Boreholes BGS Reference: Nz36ne109/2 Drilled Length (m): 12.19 Borehole Name: Smith Dock High Shields Bh2	A10SW (W)	441	3	435470 566160
355	BGS Boreholes BGS Reference: Nz36ne12983/Tp3 Drilled Length (m): 3 Borehole Name: Mill Dam South Shields Tp3	A10NE (N)	443	3	435890 566750
355	BGS Boreholes BGS Reference: Nz36ne12983/Tp2 Drilled Length (m): 2 Borehole Name: Mill Dam South Shields Tp2	A10NE (N)	453	3	435910 566760
355	BGS Boreholes BGS Reference: Nz36ne12983/Tp7 Drilled Length (m): 2 Borehole Name: Mill Dam South Shields Tp7	A10NE (N)	464	3	435870 566770
355	BGS Boreholes BGS Reference: Nz36ne12983/Tp5 Drilled Length (m): 2 Borehole Name: Mill Dam South Shields Tp5	A10NE (N)	473	3	435900 566780
355	BGS Boreholes BGS Reference: Nz36ne12983/Tp1 Drilled Length (m): 2 Borehole Name: Mill Dam South Shields Tp1	A14SE (N)	483	3	435920 566790
355	BGS Boreholes BGS Reference: Nz36ne12983/Tp6 Drilled Length (m): 2 Borehole Name: Mill Dam South Shields Tp6	A14SE (N)	493	3	435890 566800
356	BGS Boreholes BGS Reference: Nz36ne13828/1 Drilled Length (m): 38 Borehole Name: Tyneside Rekendyke Bh1	A6SE (S)	450	3	435830 565500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
357	BGS Boreholes BGS Reference: Nz36ne134/1 Drilled Length (m): 19.81 Borehole Name: Middle Docks South Shields Bh1	A10NE (NW)	451	3	435716 566720
358	BGS Boreholes BGS Reference: Nz36ne510 Drilled Length (m): 13.8 Borehole Name: Tyne Metro Railway, South Shields Section Ba16	A11NE (NE)	452	3	436395 566544
358	BGS Boreholes BGS Reference: Nz36ne187 Drilled Length (m): 17.35 Borehole Name: Tyneside Rapid Transit Bhssv1	A11NE (NE)	464	3	436380 566580
359	BGS Boreholes BGS Reference: Nz36ne198/B22 Drilled Length (m): 14.78 Borehole Name: Tyneside Sewerage South Shields S22	A6SE (S)	453	3	435820 565500
360	BGS Boreholes BGS Reference: Nz36ne13780/14 Drilled Length (m): 10 Borehole Name: St Hilda South Shields 14	A11NW (N)	453	3	436220 566680
360	BGS Boreholes BGS Reference: Nz36ne990 Drilled Length (m): 10 Borehole Name: St. Hilda, South Shields. Bh14	A11NW (N)	456	3	436222 566682
360	BGS Boreholes BGS Reference: Nz36ne989 Drilled Length (m): 10 Borehole Name: St. Hilda, South Shields. Bh12c	A11NW (N)	471	3	436198 566708
360	BGS Boreholes BGS Reference: Nz36ne13780/12 Drilled Length (m): 1 Borehole Name: St Hilda South Shields 12	A11NW (N)	474	3	436200 566710
360	BGS Boreholes BGS Reference: Nz36ne973 Drilled Length (m): 4 Borehole Name: Retail Sales Development For Harris Queensway Plc, Station Rd., South Shields. Bh4	A11NW (NE)	475	3	436274 566678
360	BGS Boreholes BGS Reference: Nz36ne991 Drilled Length (m): 10 Borehole Name: St. Hilda, South Shields. Bh15	A11NW (N)	488	3	436241 566709
360	BGS Boreholes BGS Reference: Nz36ne13780/15 Drilled Length (m): 10 Borehole Name: St Hilda South Shields 15	A11NW (N)	489	3	436240 566710
360	BGS Boreholes BGS Reference: Nz36ne979 Drilled Length (m): 7 Borehole Name: Retail Sales Development For Harris Queensway Plc, Station Rd., South Shields. Bh10	A11NW (NE)	489	3	436264 566699
360	BGS Boreholes BGS Reference: Nz36ne13780/20 Drilled Length (m): 10 Borehole Name: St Hilda South Shields 20	A11NW (NE)	506	3	436280 566710
360	BGS Boreholes BGS Reference: Nz36ne996 Drilled Length (m): 10 Borehole Name: St. Hilda, South Shields. Bh20	A11NW (NE)	507	3	436284 566709
360	BGS Boreholes BGS Reference: Nz36ne978 Drilled Length (m): 1 Borehole Name: Retail Sales Development For Harris Queensway Plc, Station Rd., South Shields. Bh9	A11NW (N)	514	3	436217 566747
360	BGS Boreholes BGS Reference: Nz36ne975 Drilled Length (m): 1 Borehole Name: Retail Sales Development For Harris Queensway Plc, Station Rd., South Shields. Bh7	A11NW (N)	517	3	436218 566750

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
360	BGS Boreholes BGS Reference: Nz36ne977 Drilled Length (m): 1 Borehole Name: Retail Sales Development For Harris Queensway Plc, Station Rd., South Shields. Bh8	A11NW (N)	519	3	436216 566752
360	BGS Boreholes BGS Reference: Nz36ne976 Drilled Length (m): 4.5 Borehole Name: Retail Sales Development For Harris Queensway Plc, Station Rd., South Shields. Bh6	A11NW (N)	528	3	436226 566758
361	BGS Boreholes BGS Reference: Nz36ne1320 Drilled Length (m): 6 Borehole Name: Temple Town, Tyne Dock, South Shields 3	A6NW (SW)	454	3	435508 565801
361	BGS Boreholes BGS Reference: Nz36ne1318 Drilled Length (m): 6 Borehole Name: Temple Town, Tyne Dock, South Shields 1	A6SW (SW)	463	3	435507 565775
362	BGS Boreholes BGS Reference: Nz36ne109/15 Drilled Length (m): 4.11 Borehole Name: Smith Dock High Shields Bh15	A6NW (W)	463	3	435460 566070
363	BGS Boreholes BGS Reference: Nz36ne997 Drilled Length (m): 10 Borehole Name: St. Hilda, South Shields. Bh21	A11NW (NE)	463	3	436275 566663
363	BGS Boreholes BGS Reference: Nz36ne13780/21 Drilled Length (m): 10 Borehole Name: St Hilda South Shields 21	A11NW (NE)	471	3	436280 566670
363	BGS Boreholes BGS Reference: Nz36ne972 Drilled Length (m): 6 Borehole Name: Retail Sales Development For Harris Queensway Plc, Station Rd., South Shields. Bh3	A11NW (NE)	512	3	436307 566701
363	BGS Boreholes BGS Reference: Nz36ne934 Drilled Length (m): 9.45 Borehole Name: Town Hall Approach Road, South Shields 1.	A11NW (NE)	523	3	436339 566694
363	BGS Boreholes BGS Reference: Nz36ne995 Drilled Length (m): 10 Borehole Name: St. Hilda, South Shields. Bh19	A11NW (NE)	548	3	436298 566748
364	BGS Boreholes BGS Reference: Nz36ne15 Drilled Length (m): 64.92 Borehole Name: From Stone Drift St Hilda Coll U/G Bh	A11NW (N)	464	3	436200 566700
365	BGS Boreholes BGS Reference: Nz36ne13729/7 Drilled Length (m): 12 Borehole Name: South Shields Station Industrial Estate Bh7	A10NE (N)	464	3	436000 566760
365	BGS Boreholes BGS Reference: Nz36ne13729/8 Drilled Length (m): 11 Borehole Name: South Shields Station Industrial Estate Bh8	A11NW (N)	481	3	436030 566770
365	BGS Boreholes BGS Reference: Nz36ne13729/12 Drilled Length (m): 11 Borehole Name: South Shields Station Industrial Estate Bh12	A15SW (N)	506	3	436050 566790
366	BGS Boreholes BGS Reference: Nz36ne97/D Drilled Length (m): 10.67 Borehole Name: Templeton South Shields D	A6SW (SW)	465	3	435620 565600
367	BGS Boreholes BGS Reference: Nz36ne1333 Drilled Length (m): 30 Borehole Name: Land At Malvern Street, South Shields Bh3.	A7SW (S)	474	3	436105 565445

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
368	BGS Boreholes BGS Reference: Nz36ne12983/Tp10 Drilled Length (m): 3 Borehole Name: Mill Dam South Shields Tp10	A10NE (N)	479	3	435820 566780
368	BGS Boreholes BGS Reference: Nz36ne12983/Tp9 Drilled Length (m): 3 Borehole Name: Mill Dam South Shields Tp9	A14SE (N)	486	3	435840 566790
368	BGS Boreholes BGS Reference: Nz36ne12983/Tp12 Drilled Length (m): 2 Borehole Name: Mill Dam South Shields Tp12	A14SE (N)	502	3	435800 566800
368	BGS Boreholes BGS Reference: Nz36ne12983/Tp11 Drilled Length (m): 3 Borehole Name: Mill Dam South Shields Tp11	A14SE (N)	519	3	435820 566820
369	BGS Boreholes BGS Reference: Nz36ne647 Drilled Length (m): 8.83 Borehole Name: Lower Reaches Of The River Tyne, Newcastle-Upon-Tyne	A10NW (NW)	479	3	435443 566456
370	BGS Boreholes BGS Reference: Nz36ne508 Drilled Length (m): 49.35 Borehole Name: Tyne Metro Railway, South Shields Section Ba15a	A11NE (NE)	483	3	436392 566595
371	BGS Boreholes BGS Reference: Nz36ne640 Drilled Length (m): 5.18 Borehole Name: Lower Reaches Of The River Tyne, Newcastle-Upon-Tyne	A10NW (NW)	486	3	435607 566696
372	BGS Boreholes BGS Reference: Nz36ne134/13 Drilled Length (m): 20.42 Borehole Name: Middle Docks South Shields Bh13	A10NE (N)	489	3	435792 566785
372	BGS Boreholes BGS Reference: Nz36ne134/3 Drilled Length (m): 19.81 Borehole Name: Middle Docks South Shields Bh3	A14SE (N)	510	3	435782 566804
372	BGS Boreholes BGS Reference: Nz36ne12983/2 Drilled Length (m): 11 Borehole Name: Mill Dam South Shields 2	A14SE (N)	524	3	435790 566820
372	BGS Boreholes BGS Reference: Nz36ne23/B Drilled Length (m): 19.2 Borehole Name: Mill Dam Quay Ext South Shields 2	A14SE (N)	528	3	435770 566820
372	BGS Boreholes BGS Reference: Nz36ne134/12 Drilled Length (m): 27.43 Borehole Name: Middle Docks South Shields Bh12	A14SE (N)	536	3	435790 566832
373	BGS Boreholes BGS Reference: Nz36ne509 Drilled Length (m): 22.18 Borehole Name: Tyne Metro Railway, South Shields Section Ba15b	A11NE (NE)	490	3	436392 566606
373	BGS Boreholes BGS Reference: Nz36ne507 Drilled Length (m): 12.3 Borehole Name: Tyne Metro Railway, South Shields Section Ba15	A11NE (NE)	493	3	436392 566610
373	BGS Boreholes BGS Reference: Nz36ne506 Drilled Length (m): 27.2 Borehole Name: Tyne Metro Railway, South Shields Section Ba14	A11NE (NE)	511	3	436386 566640
373	BGS Boreholes BGS Reference: Nz36ne371 Drilled Length (m): 10.69 Borehole Name: Town Hall Bridge South Shields 4	A11NE (NE)	526	3	436401 566647

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
373	BGS Boreholes BGS Reference: Nz36ne372 Drilled Length (m): 10.07 Borehole Name: Town Hall Bridge South Shields 3	A11NE (NE)	535	3	436405 566656
373	BGS Boreholes BGS Reference: Nz36ne505 Drilled Length (m): 14.35 Borehole Name: Tyne Metro Railway, South Shields Section Ba13	A11NE (NE)	544	3	436388 566682
374	BGS Boreholes BGS Reference: Nz36ne109/1 Drilled Length (m): 14.63 Borehole Name: Smith Dock High Shields Bh1	A10SW (W)	491	3	435420 566160
374	BGS Boreholes BGS Reference: Nz36ne109/6 Drilled Length (m): 17.37 Borehole Name: Smith Dock High Shields Bh6	A10SW (W)	494	3	435420 566140
374	BGS Boreholes BGS Reference: Nz36ne109/18 Drilled Length (m): 10.52 Borehole Name: Smith Dock High Shields Bh18	A10SW (W)	525	3	435390 566130
374	BGS Boreholes BGS Reference: Nz36ne109/19 Drilled Length (m): 11.43 Borehole Name: Smith Dock High Shields Bh19	A6NW (W)	537	3	435380 566110
375	BGS Boreholes BGS Reference: Nz36ne71 Drilled Length (m): 262.43 Borehole Name: Engine (Templetown Old)Pit	A6SW (SW)	494	3	435584 565595
376	BGS Boreholes BGS Reference: Nz36ne12983/Tp8 Drilled Length (m): 4 Borehole Name: Mill Dam South Shields Tp8	A14SE (N)	494	3	435860 566800
377	BGS Boreholes BGS Reference: Nz36ne369 Drilled Length (m): 9.34 Borehole Name: Town Hall Bridge South Shields 1	A11NE (NE)	496	3	436366 566638
377	BGS Boreholes BGS Reference: Nz36ne370 Drilled Length (m): 9.46 Borehole Name: Town Hall Bridge South Shields 2	A11NE (NE)	501	3	436370 566642
377	BGS Boreholes BGS Reference: Nz36ne935 Drilled Length (m): 9.63 Borehole Name: Town Hall Approach Road, South Shields 2.	A11NE (NE)	518	3	436347 566681
377	BGS Boreholes BGS Reference: Nz36ne538 Drilled Length (m): 3.2 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ta2e	A11NE (NE)	541	3	436399 566669
377	BGS Boreholes BGS Reference: Nz36ne537 Drilled Length (m): 2.4 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ta2d	A11NE (NE)	543	3	436394 566676
377	BGS Boreholes BGS Reference: Nz36ne536 Drilled Length (m): 2.7 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ta2c	A11NE (NE)	556	3	436386 566700
378	BGS Boreholes BGS Reference: Nz36ne13729/11 Drilled Length (m): 11 Borehole Name: South Shields Station Industrial Estate Bh11	A11NW (N)	499	3	436090 566770
379	BGS Boreholes BGS Reference: Nz36ne13780/9 Drilled Length (m): 10 Borehole Name: St Hilda South Shields 9	A11NW (N)	506	3	436150 566760

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
379	BGS Boreholes BGS Reference: Nz36ne13780/11 Drilled Length (m): 10 Borehole Name: St Hilda South Shields 11	A11NW (N)	506	3	436180 566750
379	BGS Boreholes BGS Reference: Nz36ne988 Drilled Length (m): 10 Borehole Name: St. Hilda, South Shields. Bh11	A11NW (N)	507	3	436186 566750
379	BGS Boreholes BGS Reference: Nz36ne13780/7 Drilled Length (m): 1 Borehole Name: St Hilda South Shields 7	A11NW (N)	523	3	436140 566780
379	BGS Boreholes BGS Reference: Nz36ne13780/10 Drilled Length (m): 10 Borehole Name: St Hilda South Shields 10	A11NW (N)	534	3	436180 566780
379	BGS Boreholes BGS Reference: Nz36ne987 Drilled Length (m): 10 Borehole Name: St. Hilda, South Shields. Bh10	A15SW (N)	542	3	436178 566789
379	BGS Boreholes BGS Reference: Nz36ne13780/8 Drilled Length (m): 10 Borehole Name: St Hilda South Shields 8	A15SW (N)	551	3	436170 566800
380	BGS Boreholes BGS Reference: Nz36ne12983/Tp4 Drilled Length (m): 1 Borehole Name: Mill Dam South Shields Tp4	A14SE (N)	513	3	435910 566820
380	BGS Boreholes BGS Reference: Nz36ne288 Drilled Length (m): 3.6 Borehole Name: South Shields Mill Dam Tp2	A14SE (N)	543	3	435871 566850
380	BGS Boreholes BGS Reference: Nz36ne287 Drilled Length (m): 3.4 Borehole Name: South Shields Mill Dam Tp1	A14SE (N)	551	3	435878 566858
381	BGS Boreholes BGS Reference: Nz36ne754 Drilled Length (m): Not Supplied Borehole Name: Corporation Quay, South Shields. Bh 2tic	A14SE (N)	515	3	435796 566812
381	BGS Boreholes BGS Reference: Nz36ne786 Drilled Length (m): Not Supplied Borehole Name: Corporation Quay, South Shields. Bh 2 Tic	A14SE (N)	515	3	435796 566812
382	BGS Boreholes BGS Reference: Nz36ne13780/16 Drilled Length (m): 12 Borehole Name: St Hilda South Shields 16	A11NW (N)	516	3	436240 566740
382	BGS Boreholes BGS Reference: Nz36ne992 Drilled Length (m): 12 Borehole Name: St. Hilda, South Shields. Bh16	A11NW (N)	523	3	436241 566747
382	BGS Boreholes BGS Reference: Nz36ne13780/17 Drilled Length (m): 11 Borehole Name: St Hilda South Shields 17	A11NW (N)	557	3	436250 566780
382	BGS Boreholes BGS Reference: Nz36ne13780/18 Drilled Length (m): 11 Borehole Name: St Hilda South Shields 18	A11NW (N)	565	3	436270 566780
382	BGS Boreholes BGS Reference: Nz36ne993 Drilled Length (m): 11 Borehole Name: St. Hilda, South Shields. Bh17	A11NW (N)	565	3	436254 566787

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
383	BGS Boreholes BGS Reference: Nz36ne277 Drilled Length (m): Not Supplied Borehole Name: South Shields Mcnulty Quay 11	A10SW (W)	516	3	435396 566149
383	BGS Boreholes BGS Reference: Nz36ne271 Drilled Length (m): Not Supplied Borehole Name: South Shields Mcnulty Quay 5	A10SW (W)	552	3	435362 566134
384	BGS Boreholes BGS Reference: Nz36ne109/7 Drilled Length (m): 7.92 Borehole Name: Smith Dock High Shields Bh7	A6NW (W)	519	3	435400 566100
385	BGS Boreholes BGS Reference: Nz36ne109/17 Drilled Length (m): 12.95 Borehole Name: Smith Dock High Shields Bh17	A6NW (W)	520	3	435400 566090
386	BGS Boreholes BGS Reference: Nz36ne272 Drilled Length (m): Not Supplied Borehole Name: South Shields Mcnulty Quay 6	A10SW (W)	521	3	435387 566181
387	BGS Boreholes BGS Reference: Nz36ne279 Drilled Length (m): Not Supplied Borehole Name: South Shields Mcnulty Quay 13	A6NW (W)	528	3	435413 565908
387	BGS Boreholes BGS Reference: Nz36ne278 Drilled Length (m): Not Supplied Borehole Name: South Shields Mcnulty Quay 12	A6NW (W)	567	3	435372 565930
388	BGS Boreholes BGS Reference: Nz36ne522 Drilled Length (m): 19.02 Borehole Name: Tyne Metro Railway, South Shields Section Ba26	A3NW (S)	529	3	436165 565395
389	BGS Boreholes BGS Reference: Nz36ne12983/1a Drilled Length (m): 14 Borehole Name: Mill Dam South Shields 1a	A14SE (N)	530	3	435810 566830
389	BGS Boreholes BGS Reference: Nz36ne23/D Drilled Length (m): 16.46 Borehole Name: Mill Dam Quay Ext South Shields 4	A14SE (N)	540	3	435810 566840
389	BGS Boreholes BGS Reference: Nz36ne134/8 Drilled Length (m): 13.87 Borehole Name: Middle Docks South Shields Bh8	A14SE (N)	560	3	435863 566866
389	BGS Boreholes BGS Reference: Nz36ne134/5 Drilled Length (m): 21.34 Borehole Name: Middle Docks South Shields Bh5	A14SE (N)	562	3	435809 566862
389	BGS Boreholes BGS Reference: Nz36ne134/7 Drilled Length (m): 19.81 Borehole Name: Middle Docks South Shields Bh7	A14SE (N)	571	3	435820 566873
389	BGS Boreholes BGS Reference: Nz36ne23/C Drilled Length (m): 14.33 Borehole Name: Mill Dam Quay Ext South Shields 3	A14SE (N)	578	3	435820 566880
389	BGS Boreholes BGS Reference: Nz36ne134/9 Drilled Length (m): 13.11 Borehole Name: Middle Docks South Shields Bh9	A14SE (N)	593	3	435836 566897
389	BGS Boreholes BGS Reference: Nz36ne23/A Drilled Length (m): 25.45 Borehole Name: Mill Dam Quay Ext South Shields 1	A14SE (N)	607	3	435830 566910

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
390	BGS Boreholes BGS Reference: Nz36ne265 Drilled Length (m): Not Supplied Borehole Name: South Shields Mcnulty Quay 2	A6NW (W)	530	3	435392 566079
390	BGS Boreholes BGS Reference: Nz36ne266 Drilled Length (m): Not Supplied Borehole Name: South Shields Mcnulty Quay 3	A6NW (W)	538	3	435386 566062
390	BGS Boreholes BGS Reference: Nz36ne264 Drilled Length (m): Not Supplied Borehole Name: South Shields Mcnulty Quay 1	A6NW (W)	544	3	435378 566074
390	BGS Boreholes BGS Reference: Nz36ne276 Drilled Length (m): Not Supplied Borehole Name: South Shields Mcnulty Quay 10	A6NW (W)	548	3	435370 566103
390	BGS Boreholes BGS Reference: Nz36ne270 Drilled Length (m): Not Supplied Borehole Name: South Shields Mcnulty Quay 4	A6NW (W)	576	3	435343 566092
390	BGS Boreholes BGS Reference: Nz36ne275 Drilled Length (m): Not Supplied Borehole Name: South Shields Mcnulty Quay 9	A6NW (W)	576	3	435349 566048
391	BGS Boreholes BGS Reference: Nz36ne756 Drilled Length (m): Not Supplied Borehole Name: Corporation Quay, South Shields. Bh 3tic	A14SE (N)	532	3	435815 566833
391	BGS Boreholes BGS Reference: Nz36ne788 Drilled Length (m): Not Supplied Borehole Name: Corporation Quay, South Shields. Bh 4 Tic	A14SE (N)	532	3	435815 566833
391	BGS Boreholes BGS Reference: Nz36ne757 Drilled Length (m): Not Supplied Borehole Name: Corporation Quay, South Shields. Bh 4	A14SE (N)	555	3	435822 566857
391	BGS Boreholes BGS Reference: Nz36ne789 Drilled Length (m): Not Supplied Borehole Name: Corporation Quay, South Shields. Bh 4	A14SE (N)	555	3	435822 566857
391	BGS Boreholes BGS Reference: Nz36ne755 Drilled Length (m): Not Supplied Borehole Name: Corporation Quay, South Shields. Bh 3tic	A14SE (N)	565	3	435830 566868
391	BGS Boreholes BGS Reference: Nz36ne787 Drilled Length (m): Not Supplied Borehole Name: Corporation Quay, South Shields. Bh 3 Tic	A14SE (N)	565	3	435830 566868
392	BGS Boreholes BGS Reference: Nz36ne12 Drilled Length (m): 261.68 Borehole Name: St Hilda Colliery South Shields	A11NW (N)	534	3	436197 566775
392	BGS Boreholes BGS Reference: Nz36ne29 Drilled Length (m): 272.81 Borehole Name: Church/New Engine Pit Wallsend U/G	A11NW (N)	534	3	436197 566775
393	BGS Boreholes BGS Reference: Nz36ne971 Drilled Length (m): 6 Borehole Name: Retail Sales Development For Harris Queensway Plc, Station Rd., South Shields. Bh2	A11NW (NE)	535	3	436279 566743
393	BGS Boreholes BGS Reference: Nz36ne974 Drilled Length (m): 5 Borehole Name: Retail Sales Development For Harris Queensway Plc, Station Rd., South Shields. Bh5	A11NW (N)	538	3	436235 566766

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393	BGS Boreholes BGS Reference: Nz36ne13780/19 Drilled Length (m): 10 Borehole Name: St Hilda South Shields 19	A11NW (NE)	546	3	436290 566750
393	BGS Boreholes BGS Reference: Nz36ne970 Drilled Length (m): 8 Borehole Name: Retail Sales Development For Harris Queensway Plc, Station Rd., South Shields. Bh1	A11NW (N)	558	3	436255 566779
394	BGS Boreholes BGS Reference: Nz36ne286 Drilled Length (m): 10.3 Borehole Name: South Shields Mill Dam Bh2	A14SE (N)	541	3	435870 566847
395	BGS Boreholes BGS Reference: Nz36ne13729/13 Drilled Length (m): 20 Borehole Name: South Shields Station Industrial Estate Bh13	A15SW (N)	542	3	436040 566830
396	BGS Boreholes BGS Reference: Nz36ne1332 Drilled Length (m): 30 Borehole Name: Land At Malvern Street, South Shields Rbh1.	A3NW (S)	545	3	436040 565375
397	BGS Boreholes BGS Reference: Nz36ne13780/4 Drilled Length (m): 3 Borehole Name: St Hilda South Shields 4	A15SW (N)	546	3	436120 566810
397	BGS Boreholes BGS Reference: Nz36ne13780/1 Drilled Length (m): 4 Borehole Name: St Hilda South Shields 1	A15SW (N)	566	3	436090 566840
397	BGS Boreholes BGS Reference: Nz36ne13780/3 Drilled Length (m): 3 Borehole Name: St Hilda South Shields 3	A15SW (N)	577	3	436130 566840
398	BGS Boreholes BGS Reference: Nz36ne937 Drilled Length (m): 10.94 Borehole Name: Town Hall Approach Road, South Shields 4.	A11NE (NE)	546	3	436373 566697
398	BGS Boreholes BGS Reference: Nz36ne936 Drilled Length (m): 10.24 Borehole Name: Town Hall Approach Road, South Shields 3.	A11NE (NE)	557	3	436370 566713
398	BGS Boreholes BGS Reference: Nz36ne504 Drilled Length (m): 22.12 Borehole Name: Tyne Metro Railway, South Shields Section Ba12	A11NE (NE)	571	3	436376 566726
399	BGS Boreholes BGS Reference: Nz36ne651 Drilled Length (m): 1.4 Borehole Name: Lower Reaches Of The River Tyne, Newcastle-Upon-Tyne	A10NW (NW)	549	3	435430 566595
399	BGS Boreholes BGS Reference: Nz36ne112/8 Drilled Length (m): 5 Borehole Name: Whitehill Point North Shields Bh8	A10NW (NW)	551	3	435456 566637
399	BGS Boreholes BGS Reference: Nz36ne112/2 Drilled Length (m): 4.42 Borehole Name: Whitehill Point North Shields Bh2	A10NW (NW)	560	3	435424 566606
399	BGS Boreholes BGS Reference: Nz36ne112/1 Drilled Length (m): 4.27 Borehole Name: Whitehill Point North Shields Bh1	A10NW (NW)	597	3	435391 566623
400	BGS Boreholes BGS Reference: Nz36ne97/A Drilled Length (m): 12.19 Borehole Name: Templeton South Shields A	A6SW (SW)	555	3	435500 565600

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401	BGS Boreholes BGS Reference: Nz36ne198/B21 Drilled Length (m): 13.12 Borehole Name: Tyneside Sewerage South Shields S21	A2NE (S)	555	3	435800 565400
402	BGS Boreholes BGS Reference: Nz36ne303 Drilled Length (m): 89.61 Borehole Name: St Hilda'S Colliery, South Shields, N.C.R.	A15SW (N)	555	3	436120 566820
403	BGS Boreholes BGS Reference: Nz36ne641 Drilled Length (m): 2.62 Borehole Name: Lower Reaches Of The River Tyne, Newcastle-Upon-Tyne	A10NW (NW)	557	3	435377 566505
403	BGS Boreholes BGS Reference: Nz36ne642 Drilled Length (m): 2.62 Borehole Name: Lower Reaches Of The River Tyne, Newcastle-Upon-Tyne	A10NW (NW)	557	3	435372 566492
404	BGS Boreholes BGS Reference: Nz36ne28/F Drilled Length (m): 6.1 Borehole Name: Horton Coll Railway S Shields	A11SE (NE)	559	3	436600 566400
405	BGS Boreholes BGS Reference: Nz36ne586 Drilled Length (m): 2.9 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ha13	A3NW (S)	562	3	436146 565359
406	BGS Boreholes BGS Reference: Nz36ne285 Drilled Length (m): 9.5 Borehole Name: South Shields Mill Dam Bh1	A14SE (N)	565	3	435863 566871
406	BGS Boreholes BGS Reference: Nz36ne134/11 Drilled Length (m): 6.4 Borehole Name: Middle Docks South Shields Bh11	A14SE (N)	589	3	435818 566891
407	BGS Boreholes BGS Reference: Nz36ne449 Drilled Length (m): 1.6 Borehole Name: A194 West Approach South Shields Tpm	A2NE (S)	565	3	435827 565383
408	BGS Boreholes BGS Reference: Nz36ne994 Drilled Length (m): 11.5 Borehole Name: St. Hilda, South Shields. Bh18	A11NW (NE)	572	3	436280 566783
409	BGS Boreholes BGS Reference: Nz36ne872 Drilled Length (m): 38.13 Borehole Name: Police Station, South Shields. Bh 1	A15SW (N)	578	3	436179 566826
409	BGS Boreholes BGS Reference: Nz36ne40 Drilled Length (m): 41.78 Borehole Name: Bore In Old Well The Lane	A15SW (N)	590	3	436140 566850
409	BGS Boreholes BGS Reference: Nz36ne13 Drilled Length (m): 33.34 Borehole Name: Staple Pit St Hilda Colliery U/G	A15SW (N)	592	3	436180 566840
410	BGS Boreholes BGS Reference: Nz36ne198/B29 Drilled Length (m): 13.11 Borehole Name: Tyneside Sewerage South Shields S29	A14SE (N)	582	3	436000 566880
411	BGS Boreholes BGS Reference: Nz36ne112/7 Drilled Length (m): 5.87 Borehole Name: Whitehill Point North Shields Bh7	A10NW (NW)	584	3	435446 566677
412	BGS Boreholes BGS Reference: Nz36ne112/4 Drilled Length (m): 4.57 Borehole Name: Whitehill Point North Shields Bh4	A10NW (NW)	589	3	435423 566655

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412	BGS Boreholes BGS Reference: Nz36ne112/6 Drilled Length (m): 4.88 Borehole Name: Whitehill Point North Shields Bh6	A10NW (NW)	602	3	435423 566677
412	BGS Boreholes BGS Reference: Nz36ne112/3 Drilled Length (m): 4.88 Borehole Name: Whitehill Point North Shields Bh3	A10NW (NW)	615	3	435387 566650
412	BGS Boreholes BGS Reference: Nz36ne112/5 Drilled Length (m): 4.88 Borehole Name: Whitehill Point North Shields Bh5	A10NW (NW)	630	3	435391 566681
413	BGS Boreholes BGS Reference: Nz36ne91 Drilled Length (m): Not Supplied Borehole Name: Well At St Hildas Colliery	A15SW (N)	590	3	436140 566850
414	BGS Boreholes BGS Reference: Nz36ne351 Drilled Length (m): 14.64 Borehole Name: Whitehill Point, East Mooring No.2 Tier N Shields Bh3	A9SE (NW)	592	3	435319 566429
414	BGS Boreholes BGS Reference: Nz36ne352 Drilled Length (m): 13.41 Borehole Name: Whitehill Point, East Mooring No.2 Tier N Shields Bh5	A9SE (NW)	592	3	435322 566442
414	BGS Boreholes BGS Reference: Nz36ne349 Drilled Length (m): 14.33 Borehole Name: Whitehill Point, East Mooring No.2 Tier N Shields Bh2	A9NE (NW)	606	3	435311 566457
414	BGS Boreholes BGS Reference: Nz36ne348 Drilled Length (m): 14.34 Borehole Name: Whitehill Point, East Mooring No.2 Tier N Shields Bh1	A9NE (NW)	608	3	435313 566474
414	BGS Boreholes BGS Reference: Nz36ne350 Drilled Length (m): 14.66 Borehole Name: Whitehill Point, East Mooring No.2 Tier N Shields Bh4	A9SE (NW)	609	3	435303 566436
415	BGS Boreholes BGS Reference: Nz36ne650 Drilled Length (m): 6.09 Borehole Name: Lower Reaches Of The River Tyne, Newcastle-Upon-Tyne	A9SE (W)	593	3	435311 566391
416	BGS Boreholes BGS Reference: Nz36ne132/28 Drilled Length (m): 2.69 Borehole Name: Tyne Dock And Jarrow Slake Bh28	A6NW (W)	595	3	435350 565870
417	BGS Boreholes BGS Reference: Nz36ne282 Drilled Length (m): Not Supplied Borehole Name: South Shields Mcnulty Quay 16p	A9SE (W)	596	3	435312 566175
418	BGS Boreholes BGS Reference: Nz36ne274 Drilled Length (m): Not Supplied Borehole Name: South Shields Mcnulty Quay 8	A6NW (W)	597	3	435337 565979
418	BGS Boreholes BGS Reference: Nz36ne273 Drilled Length (m): Not Supplied Borehole Name: South Shields Mcnulty Quay 7	A5NE (W)	619	3	435318 565940
419	BGS Boreholes BGS Reference: Nz36ne13780/6 Drilled Length (m): 2 Borehole Name: St Hilda South Shields 6	A15SW (N)	598	3	436170 566850
419	BGS Boreholes BGS Reference: Nz36ne13780/2 Drilled Length (m): 2 Borehole Name: St Hilda South Shields 2	A15SW (N)	618	3	436140 566880

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
420	BGS Boreholes BGS Reference: Nz36ne643 Drilled Length (m): 6.4 Borehole Name: Lower Reaches Of The River Tyne, Newcastle-Upon-Tyne	A9SE (W)	600	3	435312 566147
421	BGS Boreholes BGS Reference: Nz36ne646 Drilled Length (m): 6.09 Borehole Name: Lower Reaches Of The River Tyne, Newcastle-Upon-Tyne	A10NW (NW)	600	3	435483 566741
422	BGS Boreholes BGS Reference: Nz36ne132/29 Drilled Length (m): 2.05 Borehole Name: Tyne Dock And Jarrow Slake Bh29	A6SW (SW)	604	3	435360 565770
423	BGS Boreholes BGS Reference: Nz36ne269 Drilled Length (m): Not Supplied Borehole Name: South Shields Mcnulty Quay 3	A5NE (W)	605	3	435321 566043
423	BGS Boreholes BGS Reference: Nz36ne131 Drilled Length (m): Not Supplied Borehole Name: Drilled In River Tyne	A5NE (W)	631	3	435300 566000
424	BGS Boreholes BGS Reference: Nz36ne503 Drilled Length (m): 15.25 Borehole Name: Tyne Metro Railway, South Shields Section Ba11	A11NE (NE)	605	3	436382 566764
425	BGS Boreholes BGS Reference: Nz36ne281 Drilled Length (m): Not Supplied Borehole Name: South Shields Mcnulty Quay 15p	A5NE (W)	609	3	435308 566105
425	BGS Boreholes BGS Reference: Nz36ne267 Drilled Length (m): Not Supplied Borehole Name: South Shields Mcnulty Quay 1	A5NE (W)	643	3	435278 566074
425	BGS Boreholes BGS Reference: Nz36ne280 Drilled Length (m): Not Supplied Borehole Name: South Shields Mcnulty Quay 14p	A5NE (W)	652	3	435274 566039
426	BGS Boreholes BGS Reference: Nz36ne502 Drilled Length (m): 13.65 Borehole Name: Tyne Metro Railway, South Shields Section Ba10	A11NE (NE)	613	3	436369 566781
426	BGS Boreholes BGS Reference: Nz36ne188 Drilled Length (m): 21 Borehole Name: Tyneside Rapid Transit Bhssv2	A15SW (NE)	618	3	436330 566810
427	BGS Boreholes BGS Reference: Nz36ne933 Drilled Length (m): 12.6 Borehole Name: Crossgate, South Shields 4.	A11NE (NE)	617	3	436463 566713
427	BGS Boreholes BGS Reference: Nz36ne932 Drilled Length (m): 11.5 Borehole Name: Crossgate, South Shields 3a.	A11NE (NE)	637	3	436470 566734
427	BGS Boreholes BGS Reference: Nz36ne930 Drilled Length (m): 15.45 Borehole Name: Crossgate, South Shields 2.	A11NE (NE)	654	3	436481 566747
427	BGS Boreholes BGS Reference: Nz36ne186/C Drilled Length (m): 14.37 Borehole Name: South Shields Telephone Ex Bh3	A11NE (NE)	659	3	436509 566727
427	BGS Boreholes BGS Reference: Nz36ne928 Drilled Length (m): 11.89 Borehole Name: Telephone Exchange, South Shields 6.	A11NE (NE)	672	3	436511 566744

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427	BGS Boreholes BGS Reference: Nz36ne186/B Drilled Length (m): 17.17 Borehole Name: South Shields Telephone Ex Bh2	A11NE (NE)	676	3	436508 566752
428	BGS Boreholes BGS Reference: Nz36ne15574/D101 Drilled Length (m): 14 Borehole Name: Royal Quays Area D D101f	A10NW (NW)	618	3	435396 566668
428	BGS Boreholes BGS Reference: Nz36ne15573/D1b Drilled Length (m): 12 Borehole Name: Royal Quays N Shields D101b	A10NW (NW)	647	3	435364 566673
428	BGS Boreholes BGS Reference: Nz36ne15573/D1c Drilled Length (m): 14 Borehole Name: Royal Quays N Shields D101c	A10NW (NW)	652	3	435360 566675
428	BGS Boreholes BGS Reference: Nz36ne15573/D1e Drilled Length (m): 11 Borehole Name: Royal Quays N Shields D101e	A10NW (NW)	657	3	435354 566676
429	BGS Boreholes BGS Reference: Nz36ne523 Drilled Length (m): 3 Borehole Name: Tyne Metro Railway, South Shields Section Ba27	A3NW (S)	620	3	436118 565299
430	BGS Boreholes BGS Reference: Nz36ne132/30 Drilled Length (m): 1.62 Borehole Name: Tyne Dock And Jarrow Slake Bh30	A6SW (SW)	621	3	435380 565670
431	BGS Boreholes BGS Reference: Nz36ne534 Drilled Length (m): 4 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ta2a	A15SE (NE)	621	3	436371 566790
431	BGS Boreholes BGS Reference: Nz36ne535 Drilled Length (m): 3.7 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ta2a	A15SE (NE)	621	3	436371 566790
431	BGS Boreholes BGS Reference: Nz36ne500 Drilled Length (m): 7.05 Borehole Name: Tyne Metro Railway, South Shields Section Ba9a	A15SE (NE)	639	3	436366 566814
431	BGS Boreholes BGS Reference: Nz36ne533 Drilled Length (m): 3 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ta2	A15SE (NE)	644	3	436362 566822
432	BGS Boreholes BGS Reference: Nz36ne929 Drilled Length (m): 13.6 Borehole Name: Crossgate, South Shields 1.	A11NE (NE)	624	3	436450 566735
433	BGS Boreholes BGS Reference: Nz36ne110/3 Drilled Length (m): 12.8 Borehole Name: Cable Dean North Shields Bh3	A10NW (NW)	625	3	435340 566590
433	BGS Boreholes BGS Reference: Nz36ne110/4 Drilled Length (m): 25.12 Borehole Name: Cable Dean North Shields Bh4	A10NW (NW)	631	3	435350 566620
433	BGS Boreholes BGS Reference: Nz36ne110/5 Drilled Length (m): 24.43 Borehole Name: Cable Dean North Shields Bh5	A10NW (NW)	631	3	435350 566620
433	BGS Boreholes BGS Reference: Nz36ne15573/D118 Drilled Length (m): 28 Borehole Name: Royal Quays N Shields D118	A10NW (NW)	640	3	435356 566647

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
434	BGS Boreholes BGS Reference: Nz36ne110/2 Drilled Length (m): 14.05 Borehole Name: Cable Dean North Shields Bh2	A9NE (NW)	631	3	435320 566560
434	BGS Boreholes BGS Reference: Nz36ne110/1 Drilled Length (m): 20.73 Borehole Name: Cable Dean North Shields Bh1	A9NE (NW)	642	3	435300 566540
435	BGS Boreholes BGS Reference: Nz36ne268 Drilled Length (m): Not Supplied Borehole Name: South Shields McNulty Quay 2	A5NE (W)	634	3	435298 565992
436	BGS Boreholes BGS Reference: Nz36ne152 Drilled Length (m): 19.81 Borehole Name: Westoe Colliery Jetty Bh1	A14SE (N)	635	3	435850 566940
437	BGS Boreholes BGS Reference: Nz36ne931 Drilled Length (m): 7 Borehole Name: Crossgate, South Shields 3.	A11NE (NE)	637	3	436470 566734
438	BGS Boreholes BGS Reference: Nz36ne15573/D1a Drilled Length (m): 35 Borehole Name: Royal Quays N Shields D101a	A10NW (NW)	639	3	435377 566678
438	BGS Boreholes BGS Reference: Nz36ne15573/D1d Drilled Length (m): 31 Borehole Name: Royal Quays N Shields D101d	A10NW (NW)	669	3	435341 566678
439	BGS Boreholes BGS Reference: Nz36ne648 Drilled Length (m): 5.79 Borehole Name: Lower Reaches Of The River Tyne, Newcastle-Upon-Tyne	A9SE (W)	643	3	435255 566315
440	BGS Boreholes BGS Reference: Nz36ne15574/D102 Drilled Length (m): 23 Borehole Name: Royal Quays Area D D102f	A10NW (NW)	645	3	435405 566723
440	BGS Boreholes BGS Reference: Nz36ne110/6 Drilled Length (m): 25.86 Borehole Name: Cable Dean North Shields Bh6	A10NW (NW)	646	3	435370 566680
440	BGS Boreholes BGS Reference: Nz36ne110/7 Drilled Length (m): 26.42 Borehole Name: Cable Dean North Shields Bh7	A10NW (NW)	656	3	435380 566710
440	BGS Boreholes BGS Reference: Nz36ne13824/7 Drilled Length (m): 25 Borehole Name: Albert Edward Deck 7	A10NW (NW)	664	3	435370 566710
440	BGS Boreholes BGS Reference: Nz36ne15573/D2b Drilled Length (m): 15 Borehole Name: Royal Quays N Shields D102b	A10NW (NW)	664	3	435383 566727
440	BGS Boreholes BGS Reference: Nz36ne110/8 Drilled Length (m): 23.9 Borehole Name: Cable Dean North Shields Bh8	A10NW (NW)	667	3	435390 566740
440	BGS Boreholes BGS Reference: Nz36ne15573/D2c Drilled Length (m): 15 Borehole Name: Royal Quays N Shields D102c	A10NW (NW)	667	3	435380 566727
440	BGS Boreholes BGS Reference: Nz36ne13824/7a Drilled Length (m): 25 Borehole Name: Albert Edward Deck 7a	A10NW (NW)	672	3	435360 566710

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
440	BGS Boreholes BGS Reference: Nz36ne13824/6 Drilled Length (m): 27 Borehole Name: Albert Edward Deck 6	A10NW (NW)	674	3	435390 566750
440	BGS Boreholes BGS Reference: Nz36ne15573/D2e Drilled Length (m): 13 Borehole Name: Royal Quays N Shields D102e	A10NW (NW)	675	3	435371 566729
440	BGS Boreholes BGS Reference: Nz36ne110/9 Drilled Length (m): 17.47 Borehole Name: Cable Dean North Shields Bh9	A10NW (NW)	680	3	435390 566760
440	BGS Boreholes BGS Reference: Nz36ne15573/D115 Drilled Length (m): 15 Borehole Name: Royal Quays N Shields D115	A10NW (NW)	696	3	435350 566736
441	BGS Boreholes BGS Reference: Nz36ne132/31 Drilled Length (m): 1.68 Borehole Name: Tyne Dock And Jarrow Slake Bh31	A6SW (SW)	648	3	435350 565670
441	BGS Boreholes BGS Reference: Nz36ne132/50 Drilled Length (m): 6.55 Borehole Name: Tyne Dock And Jarrow Slake Bh50	A6SW (SW)	652	3	435360 565640
441	BGS Boreholes BGS Reference: Nz36ne132/32 Drilled Length (m): 2.54 Borehole Name: Tyne Dock And Jarrow Slake Bh32	A5SE (SW)	671	3	435330 565660
442	BGS Boreholes BGS Reference: Nz36ne501 Drilled Length (m): 13.5 Borehole Name: Tyne Metro Railway, South Shields Section Ba9	A15SE (NE)	649	3	436386 566814
442	BGS Boreholes BGS Reference: Nz36ne499 Drilled Length (m): 25.99 Borehole Name: Tyne Metro Railway, South Shields Section Ba8	A15SE (NE)	667	3	436365 566847
442	BGS Boreholes BGS Reference: Nz36ne498 Drilled Length (m): 13.9 Borehole Name: Tyne Metro Railway, South Shields Section Ba7	A15SE (NE)	696	3	436376 566874
443	BGS Boreholes BGS Reference: Nz36ne448 Drilled Length (m): 1.55 Borehole Name: A194 West Approach South Shields Tpl	A2NE (S)	651	3	435826 565296
444	BGS Boreholes BGS Reference: Nz36ne13798/7 Drilled Length (m): 10 Borehole Name: South Shields Garden Lane Bh7	A15SW (N)	657	3	436240 566890
445	BGS Boreholes BGS Reference: Nz36ne15573/D2a Drilled Length (m): 36 Borehole Name: Royal Quays N Shields D102a	A10NW (NW)	657	3	435391 566725
445	BGS Boreholes BGS Reference: Nz36ne15573/D2d Drilled Length (m): 40 Borehole Name: Royal Quays N Shields D102d	A10NW (NW)	681	3	435363 566729
446	BGS Boreholes BGS Reference: Nz36ne198/B30 Drilled Length (m): 12.65 Borehole Name: Tyneside Sewerage South Shields S30	A15SW (N)	661	3	436050 566950
447	BGS Boreholes BGS Reference: Nz36ne13798/6 Drilled Length (m): 10 Borehole Name: South Shields Garden Lane Bh6	A15SW (N)	663	3	436260 566890

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
447	BGS Boreholes BGS Reference: Nz36ne13798/5 Drilled Length (m): 8 Borehole Name: South Shields Garden Lane Bh5	A15SW (N)	665	3	436290 566880
447	BGS Boreholes BGS Reference: Nz36ne13798/8 Drilled Length (m): 10 Borehole Name: South Shields Garden Lane Bh8	A15SW (N)	682	3	436260 566910
447	BGS Boreholes BGS Reference: Nz36ne13798/4 Drilled Length (m): 10 Borehole Name: South Shields Garden Lane Bh4	A15SW (N)	683	3	436290 566900
447	BGS Boreholes BGS Reference: Nz36ne13798/3 Drilled Length (m): 10 Borehole Name: South Shields Garden Lane Bh3	A15SW (N)	700	3	436310 566910
447	BGS Boreholes BGS Reference: Nz36ne13798/2 Drilled Length (m): 10 Borehole Name: South Shields Garden Lane Bh2	A15SW (N)	718	3	436310 566930
448	BGS Boreholes BGS Reference: Nz36ne555 Drilled Length (m): 1.8 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ta17	A3NW (S)	665	3	436090 565253
448	BGS Boreholes BGS Reference: Nz36ne524 Drilled Length (m): 6 Borehole Name: Tyne Metro Railway, South Shields Section Ba28	A3NW (S)	691	3	436079 565227
448	BGS Boreholes BGS Reference: Nz36ne525 Drilled Length (m): 7.3 Borehole Name: Tyne Metro Railway, South Shields Section Ba28a	A3NW (S)	725	3	436066 565194
448	BGS Boreholes BGS Reference: Nz36ne556 Drilled Length (m): 2.2 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ta18	A3NW (S)	733	3	436062 565186
449	BGS Boreholes BGS Reference: Nz36ne13824/6a Drilled Length (m): 31 Borehole Name: Albert Edward Deck 6a	A10NW (NW)	667	3	435390 566740
449	BGS Boreholes BGS Reference: Nz36ne15573/D3b Drilled Length (m): 37 Borehole Name: Royal Quays N Shields D103b	A10NW (NW)	687	3	435400 566781
449	BGS Boreholes BGS Reference: Nz36ne13824/4a Drilled Length (m): 32 Borehole Name: Albert Edward Deck 4a	A14SW (NW)	693	3	435400 566790
449	BGS Boreholes BGS Reference: Nz36ne15573/D3d Drilled Length (m): 36 Borehole Name: Royal Quays N Shields D103d	A14SW (NW)	720	3	435364 566790
450	BGS Boreholes BGS Reference: Nz36ne15574/D103 Drilled Length (m): 25 Borehole Name: Royal Quays Area D D103f	A10NW (NW)	667	3	435423 566775
450	BGS Boreholes BGS Reference: Nz36ne111/1 Drilled Length (m): 14.33 Borehole Name: Albert Edward Dock N Shields	A10NW (NW)	672	3	435417 566776
450	BGS Boreholes BGS Reference: Nz36ne111/2 Drilled Length (m): 17.37 Borehole Name: Albert Edward Dock N Shields	A14SW (NW)	676	3	435438 566803

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
450	BGS Boreholes BGS Reference: Nz36ne15573/D3c Drilled Length (m): 15 Borehole Name: Royal Quays N Shields D103c	A10NW (NW)	689	3	435397 566781
450	BGS Boreholes BGS Reference: Nz36ne13824/5 Drilled Length (m): 25 Borehole Name: Albert Edward Deck 5	A14SW (NW)	701	3	435390 566790
451	BGS Boreholes BGS Reference: Nz36ne132/34 Drilled Length (m): 4.85 Borehole Name: Tyne Dock And Jarrow Slake Bh34	A5SE (SW)	668	3	435300 565750
451	BGS Boreholes BGS Reference: Nz36ne132/35 Drilled Length (m): 1.73 Borehole Name: Tyne Dock And Jarrow Slake Bh35	A5SE (SW)	693	3	435280 565730
452	BGS Boreholes BGS Reference: Nz36ne186/A Drilled Length (m): 14.55 Borehole Name: South Shields Telephone Ex Bh1	A11NE (NE)	668	3	436485 566763
452	BGS Boreholes BGS Reference: Nz36ne923 Drilled Length (m): 15.35 Borehole Name: Telephone Exchange, South Shields 1.	A11NE (NE)	689	3	436513 566766
452	BGS Boreholes BGS Reference: Nz36ne53/B Drilled Length (m): 15.51 Borehole Name: South Shields Telephone Ex Bh2	A11NE (NE)	691	3	436500 566780
452	BGS Boreholes BGS Reference: Nz36ne926 Drilled Length (m): 14.94 Borehole Name: Telephone Exchange, South Shields 4.	A11NE (NE)	692	3	436502 566779
452	BGS Boreholes BGS Reference: Nz36ne53/C Drilled Length (m): 15.09 Borehole Name: South Shields Telephone Ex Bh3	A11NE (NE)	698	3	436510 566780
452	BGS Boreholes BGS Reference: Nz36ne53/F Drilled Length (m): 11.89 Borehole Name: South Shields Telephone Ex Bh6	A15SE (NE)	700	3	436490 566800
452	BGS Boreholes BGS Reference: Nz36ne925 Drilled Length (m): 15.09 Borehole Name: Telephone Exchange, South Shields 3.	A11NE (NE)	703	3	436518 566780
452	BGS Boreholes BGS Reference: Nz36ne53/E Drilled Length (m): 19.05 Borehole Name: South Shields Telephone Ex Bh5	A11NE (NE)	704	3	436520 566780
452	BGS Boreholes BGS Reference: Nz36ne53/A Drilled Length (m): 15.35 Borehole Name: South Shields Telephone Ex Bh1	A15SE (NE)	705	3	436510 566790
452	BGS Boreholes BGS Reference: Nz36ne90 Drilled Length (m): 19.75 Borehole Name: Bore At South Shields	A15SE (NE)	706	3	436500 566800
452	BGS Boreholes BGS Reference: Nz36ne927 Drilled Length (m): 19.05 Borehole Name: Telephone Exchange, South Shields 5.	A15SE (NE)	719	3	436527 566794
452	BGS Boreholes BGS Reference: Nz36ne53/D Drilled Length (m): 14.93 Borehole Name: South Shields Telephone Ex Bh4	A15SE (NE)	720	3	436510 566810

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
453	BGS Boreholes BGS Reference: Nz36ne186/E Drilled Length (m): 30.2 Borehole Name: South Shields Telephone Ex Bh5	A11NE (NE)	668	3	436505 566744
453	BGS Boreholes BGS Reference: Nz36ne186/D Drilled Length (m): 31.2 Borehole Name: South Shields Telephone Ex Bh4	A11NE (NE)	675	3	436492 566766
454	BGS Boreholes BGS Reference: Nz36ne132/36 Drilled Length (m): 6.4 Borehole Name: Tyne Dock And Jarrow Slake Bh36	A5NE (W)	674	3	435270 565870
455	BGS Boreholes BGS Reference: Nz36ne132/51 Drilled Length (m): 6.86 Borehole Name: Tyne Dock And Jarrow Slake Bh51	A6SW (SW)	675	3	435410 565520
456	BGS Boreholes BGS Reference: Nz36ne13743/H1 Drilled Length (m): 29 Borehole Name: North Shields Roll On Roll Off Berth H1	A9SE (NW)	683	3	435230 566450
457	BGS Boreholes BGS Reference: Nz36ne132/38 Drilled Length (m): 11.06 Borehole Name: Tyne Dock And Jarrow Slake Bh38	A5SE (SW)	684	3	435330 565630
457	BGS Boreholes BGS Reference: Nz36ne132/33 Drilled Length (m): 10.77 Borehole Name: Tyne Dock And Jarrow Slake Bh33	A5SE (SW)	693	3	435310 565650
458	BGS Boreholes BGS Reference: Nz36ne15573/Tt1 Drilled Length (m): 1 Borehole Name: Royal Quays N Shields Tt1	A10NW (NW)	688	3	435345 566717
459	BGS Boreholes BGS Reference: Nz36ne111/3 Drilled Length (m): 15.85 Borehole Name: Albert Edward Dock N Shields	A14SW (NW)	690	3	435444 566827
459	BGS Boreholes BGS Reference: Nz36ne15574/D104 Drilled Length (m): 25 Borehole Name: Royal Quays Area D D104f	A14SW (NW)	702	3	435433 566833
459	BGS Boreholes BGS Reference: Nz36ne110/10 Drilled Length (m): 23.85 Borehole Name: Cable Dean North Shields Bh10	A14SW (NW)	708	3	435410 566820
459	BGS Boreholes BGS Reference: Nz36ne13824/4 Drilled Length (m): 30 Borehole Name: Albert Edward Deck 4	A14SW (NW)	708	3	435410 566820
459	BGS Boreholes BGS Reference: Nz36ne15574/D105 Drilled Length (m): 21 Borehole Name: Royal Quays Area D D105f	A14SW (NW)	718	3	435446 566865
459	BGS Boreholes BGS Reference: Nz36ne15573/D4c Drilled Length (m): 13 Borehole Name: Royal Quays N Shields D104c	A14SW (NW)	720	3	435411 566838
459	BGS Boreholes BGS Reference: Nz36ne13824/2 Drilled Length (m): 30 Borehole Name: Albert Edward Deck 2	A14SW (NW)	723	3	435420 566850
459	BGS Boreholes BGS Reference: Nz36ne15573/D4e Drilled Length (m): 13 Borehole Name: Royal Quays N Shields D104e	A14SW (NW)	729	3	435402 566842

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
459	BGS Boreholes BGS Reference: Nz36ne110/11 Drilled Length (m): 22.02 Borehole Name: Cable Dean North Shields Bh11	A14SW (NW)	730	3	435410 566850
459	BGS Boreholes BGS Reference: Nz36ne13824/3 Drilled Length (m): 19 Borehole Name: Albert Edward Deck 3	A14SW (NW)	737	3	435400 566850
459	BGS Boreholes BGS Reference: Nz36ne13824/1 Drilled Length (m): 30 Borehole Name: Albert Edward Deck 1	A14SW (NW)	738	3	435420 566870
459	BGS Boreholes BGS Reference: Nz36ne13824/1a Drilled Length (m): 25 Borehole Name: Albert Edward Deck 1a	A14SW (NW)	738	3	435420 566870
459	BGS Boreholes BGS Reference: Nz36ne15573/D5e Drilled Length (m): 16 Borehole Name: Royal Quays N Shields D105e	A14SW (NW)	751	3	435407 566875
459	BGS Boreholes BGS Reference: Nz36ne110/12 Drilled Length (m): 17.98 Borehole Name: Cable Dean North Shields Bh12	A14SW (NW)	754	3	435420 566890
460	BGS Boreholes BGS Reference: Nz36ne15573/D117 Drilled Length (m): 15 Borehole Name: Royal Quays N Shields D117	A9NE (NW)	694	3	435316 566685
460	BGS Boreholes BGS Reference: Nz36ne15573/E102 Drilled Length (m): 15 Borehole Name: Royal Quays N Shields E102	A9NE (NW)	725	3	435269 566667
460	BGS Boreholes BGS Reference: Nz36ne15573/E101 Drilled Length (m): 15 Borehole Name: Royal Quays N Shields E101	A9NE (NW)	729	3	435283 566699
461	BGS Boreholes BGS Reference: Nz36ne114/2 Drilled Length (m): 5.38 Borehole Name: Albert Edward Dock N Shields G Bh2	A9NE (NW)	697	3	435280 566630
461	BGS Boreholes BGS Reference: Nz36ne114/1 Drilled Length (m): 9.8 Borehole Name: Albert Edward Dock N Shields G Bh1	A9NE (NW)	715	3	435270 566650
462	BGS Boreholes BGS Reference: Nz36ne15573/D3e Drilled Length (m): 15 Borehole Name: Royal Quays N Shields D103e	A10NW (NW)	701	3	435385 566785
463	BGS Boreholes BGS Reference: Nz36ne155/B Drilled Length (m): 6.55 Borehole Name: Tyne Dock South Shields Bh2	A6SW (SW)	702	3	435439 565445
463	BGS Boreholes BGS Reference: Nz36ne155/A Drilled Length (m): 6.55 Borehole Name: Tyne Dock South Shields Bh1	A6SW (SW)	720	3	435415 565445
464	BGS Boreholes BGS Reference: Nz36ne532 Drilled Length (m): 5.5 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ta1	A15SE (NE)	704	3	436373 566884
465	BGS Boreholes BGS Reference: Nz36ne355 Drilled Length (m): 11.58 Borehole Name: Whitehill Point, No.3 Staith, N Shields 3	A9SE (W)	706	3	435197 566391

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
465	BGS Boreholes BGS Reference: Nz36ne13743/A1 Drilled Length (m): 21 Borehole Name: North Shields Roll On Roll Off Berth A1	A9SE (W)	709	3	435200 566430
465	BGS Boreholes BGS Reference: Nz36ne13743/D1 Drilled Length (m): 11 Borehole Name: North Shields Roll On Roll Off Berth D1	A9SE (W)	742	3	435160 566380
466	BGS Boreholes BGS Reference: Nz36ne924 Drilled Length (m): 15.51 Borehole Name: Telephone Exchange, South Shields 2.	A11NE (NE)	711	3	436535 566775
467	BGS Boreholes BGS Reference: Nz36ne77 Drilled Length (m): 92.96 Borehole Name: From Harvey Seam Harton Coll U/G Bh	A3NE (SE)	713	3	436490 565330
468	BGS Boreholes BGS Reference: Nz36ne72 Drilled Length (m): 39.75 Borehole Name: Staple Pit Sse Of St Hilda Pit U/G Bh	A8SW (SE)	713	3	436774 565729
469	BGS Boreholes BGS Reference: Nz36ne15573/D116 Drilled Length (m): 15 Borehole Name: Royal Quays N Shields D116	A9NE (NW)	715	3	435330 566741
469	BGS Boreholes BGS Reference: Nz36ne110/26 Drilled Length (m): 10.49 Borehole Name: Cable Dean North Shields Bh26	A9NE (NW)	724	3	435310 566730
469	BGS Boreholes BGS Reference: Nz36ne110/27 Drilled Length (m): 10.18 Borehole Name: Cable Dean North Shields Bh27	A9NE (NW)	734	3	435320 566760
469	BGS Boreholes BGS Reference: Nz36ne110/28 Drilled Length (m): 10.54 Borehole Name: Cable Dean North Shields	A13SE (NW)	753	3	435320 566790
469	BGS Boreholes BGS Reference: Nz36ne110/29 Drilled Length (m): 12.42 Borehole Name: Cable Dean North Shields Bh29	A13SE (NW)	753	3	435320 566790
470	BGS Boreholes BGS Reference: Nz36ne15573/D4b Drilled Length (m): 38 Borehole Name: Royal Quays N Shields D104b	A14SW (NW)	717	3	435415 566837
470	BGS Boreholes BGS Reference: Nz36ne13824/5a Drilled Length (m): 32 Borehole Name: Albert Edward Deck 5a	A14SW (NW)	729	3	435370 566810
470	BGS Boreholes BGS Reference: Nz36ne15573/D4d Drilled Length (m): 37 Borehole Name: Royal Quays N Shields D104d	A14SW (NW)	735	3	435394 566842
470	BGS Boreholes BGS Reference: Nz36ne15573/D5b Drilled Length (m): 37 Borehole Name: Royal Quays N Shields D105b	A14SW (NW)	736	3	435422 566869
470	BGS Boreholes BGS Reference: Nz36ne13824/3a Drilled Length (m): 32 Borehole Name: Albert Edward Deck 3a	A14SW (NW)	757	3	435380 566860
470	BGS Boreholes BGS Reference: Nz36ne15573/D5d Drilled Length (m): 38 Borehole Name: Royal Quays N Shields D105d	A14SW (NW)	761	3	435394 566878

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
470	BGS Boreholes BGS Reference: Nz36ne15573/D113 Drilled Length (m): 32 Borehole Name: Royal Quays N Shields D113	A14SW (NW)	769	3	435355 566852
471	BGS Boreholes BGS Reference: Nz36ne132/39 Drilled Length (m): 1.52 Borehole Name: Tyne Dock And Jarrow Slake Bh39	A5SE (SW)	718	3	435330 565560
472	BGS Boreholes BGS Reference: Nz36ne198/B20 Drilled Length (m): 6.1 Borehole Name: Tyneside Sewerage South Shields S20	A2NE (S)	719	3	435810 565230
473	BGS Boreholes BGS Reference: Nz36ne497 Drilled Length (m): 14.25 Borehole Name: Tyne Metro Railway, South Shields Section Ba6	A15SE (NE)	719	3	436368 566904
474	BGS Boreholes BGS Reference: Nz36ne132/37 Drilled Length (m): 10.37 Borehole Name: Tyne Dock And Jarrow Slake Bh37	A5NE (W)	723	3	435220 565880
475	BGS Boreholes BGS Reference: Nz36ne153 Drilled Length (m): 28.35 Borehole Name: Westoe Colliery Jetty Bh2	A14SE (N)	723	3	435890 567030
476	BGS Boreholes BGS Reference: Nz36ne354 Drilled Length (m): 8.55 Borehole Name: Whitehill Point, No.3 Staith, N Shields 2	A9SE (W)	727	3	435174 566373
476	BGS Boreholes BGS Reference: Nz36ne13743/C1 Drilled Length (m): 9 Borehole Name: North Shields Roll On Roll Off Berth C1	A9SE (W)	732	3	435170 566380
477	BGS Boreholes BGS Reference: Nz36ne132/52 Drilled Length (m): 5.49 Borehole Name: Tyne Dock And Jarrow Slake Bh52	A6SW (SW)	729	3	435350 565510
478	BGS Boreholes BGS Reference: Nz36ne155/D Drilled Length (m): 7.62 Borehole Name: Tyne Dock South Shields Bh5	A2NW (SW)	732	3	435427 565415
478	BGS Boreholes BGS Reference: Nz36ne155/C Drilled Length (m): 6.55 Borehole Name: Tyne Dock South Shields Bh3	A2NW (SW)	746	3	435439 565384
479	BGS Boreholes BGS Reference: Nz36ne13798/1 Drilled Length (m): 10 Borehole Name: South Shields Garden Lane Bh1	A15SW (N)	735	3	436330 566940
480	BGS Boreholes BGS Reference: Nz36ne198/B31 Drilled Length (m): 9.14 Borehole Name: Tyneside Sewerage South Shields S31	A15SW (N)	736	3	436150 567000
481	BGS Boreholes BGS Reference: Nz36ne92 Drilled Length (m): 38.71 Borehole Name: Westoe Brewery South Shields	A12NW (NE)	738	3	436700 566600
481	BGS Boreholes BGS Reference: Nz36ne307 Drilled Length (m): 38.7 Borehole Name: Westoe Brewery, South Shields	A12NW (NE)	749	3	436700 566620
482	BGS Boreholes BGS Reference: Nz36ne15573/D5c Drilled Length (m): 4 Borehole Name: Royal Quays N Shields D105c	A14SW (NW)	741	3	435419 566873

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
483	BGS Boreholes BGS Reference: Nz36ne15573/D114 Drilled Length (m): 31 Borehole Name: Royal Quays N Shields D114	A14SW (NW)	742	3	435341 566797
484	BGS Boreholes BGS Reference: Nz36ne353 Drilled Length (m): 9.75 Borehole Name: Whitehill Point, No.3 Staith, N Shields 1	A9SE (W)	744	3	435155 566351
484	BGS Boreholes BGS Reference: Nz36ne13743/G Drilled Length (m): 7 Borehole Name: North Shields Roll On Roll Off Berth G	A9SE (W)	758	3	435140 566310
484	BGS Boreholes BGS Reference: Nz36ne13743/B2 Drilled Length (m): 9 Borehole Name: North Shields Roll On Roll Off Berth B2	A9SE (W)	759	3	435140 566350
484	BGS Boreholes BGS Reference: Nz36ne13743/J1 Drilled Length (m): 8 Borehole Name: North Shields Roll On Roll Off Berth J1	A9SE (W)	768	3	435130 566320
484	BGS Boreholes BGS Reference: Nz36ne13743/E Drilled Length (m): 9 Borehole Name: North Shields Roll On Roll Off Berth E	A9SE (W)	779	3	435120 566340
484	BGS Boreholes BGS Reference: Nz36ne13743/F Drilled Length (m): 10 Borehole Name: North Shields Roll On Roll Off Berth F	A9SE (W)	798	3	435100 566310
485	BGS Boreholes BGS Reference: Nz36ne28/G Drilled Length (m): 2.74 Borehole Name: Horton Coll Railway S Shields	A12SW (E)	750	3	436800 566400
486	BGS Boreholes BGS Reference: Nz36ne15573/D112 Drilled Length (m): 10 Borehole Name: Royal Quays N Shields D112	A14SW (NW)	750	3	435376 566846
487	BGS Boreholes BGS Reference: Nz36ne15574/D106 Drilled Length (m): 6 Borehole Name: Royal Quays Area D D106f	A14SW (NW)	750	3	435453 566911
488	BGS Boreholes BGS Reference: Nz36ne15574/D6a Drilled Length (m): 24 Borehole Name: Royal Quays Mine Shaft 6 1a	A14SW (NW)	751	3	435451 566911
488	BGS Boreholes BGS Reference: Nz36ne15573/D6b Drilled Length (m): 15 Borehole Name: Royal Quays N Shields D106b	A14SW (NW)	772	3	435425 566917
488	BGS Boreholes BGS Reference: Nz36ne15573/D107 Drilled Length (m): 20 Borehole Name: Royal Quays N Shields D107	A14SW (NW)	772	3	435443 566931
488	BGS Boreholes BGS Reference: Nz36ne15573/D6c Drilled Length (m): 12 Borehole Name: Royal Quays N Shields D106c	A14SW (NW)	792	3	435408 566929
489	BGS Boreholes BGS Reference: Nz36ne803 Drilled Length (m): 20.5 Borehole Name: Corney Street Bridge, A194 Western Approach, South Shields. Bh 27	A2NE (S)	753	3	435829 565192
489	BGS Boreholes BGS Reference: Nz36ne433 Drilled Length (m): 27.3 Borehole Name: A194 West Approach South Shields 15	A2NE (S)	770	3	435856 565171

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
489	BGS Boreholes BGS Reference: Nz36ne432 Drilled Length (m): 22.4 Borehole Name: A194 West Approach South Shields 14	A2NE (S)	790	3	435850 565152
490	BGS Boreholes BGS Reference: Nz36ne15573/D6a Drilled Length (m): 35 Borehole Name: Royal Quays N Shields D106a	A14SW (NW)	761	3	435437 566913
491	BGS Boreholes BGS Reference: Nz36ne110/30 Drilled Length (m): 21.03 Borehole Name: Cable Dean North Shields Bh30	A14SW (NW)	765	3	435340 566830
492	BGS Boreholes BGS Reference: Nz36ne132/53 Drilled Length (m): 18.29 Borehole Name: Tyne Dock And Jarrow Slake Bh53	A6SW (SW)	765	3	435350 565450
492	BGS Boreholes BGS Reference: Nz36ne132/54 Drilled Length (m): 21 Borehole Name: Tyne Dock And Jarrow Slake Bh54	A2NW (SW)	776	3	435350 565433
493	BGS Boreholes BGS Reference: Nz36ne526 Drilled Length (m): 13.4 Borehole Name: Tyne Metro Railway, South Shields Section Ba29	A3NW (S)	768	3	436054 565151
494	BGS Boreholes BGS Reference: Nz36ne431 Drilled Length (m): 32.2 Borehole Name: A194 West Approach South Shields 13	A2NE (S)	772	3	435831 565172
495	BGS Boreholes BGS Reference: Nz36ne154 Drilled Length (m): 22.25 Borehole Name: Westoe Colliery Jetty Bh3	A14SE (N)	783	3	435900 567090
496	BGS Boreholes BGS Reference: Nz36ne167/D Drilled Length (m): 6.1 Borehole Name: Western Approach Stage 2 B9	A2NE (S)	783	3	435840 565160
496	BGS Boreholes BGS Reference: Nz36ne167/C Drilled Length (m): 6.1 Borehole Name: Western Approach Stage 2 B8	A2NE (S)	787	3	435810 565160
496	BGS Boreholes BGS Reference: Nz36ne802 Drilled Length (m): 5.3 Borehole Name: Corney Street Bridge, A194 Western Approach, South Shields. Bh 26	A2NE (S)	794	3	435834 565150
497	BGS Boreholes BGS Reference: Nz36ne1111 Drilled Length (m): 5 Borehole Name: Area 1, Tyne Dock Development, South Shields 2	A5SE (SW)	783	3	435187 565725
498	BGS Boreholes BGS Reference: Nz36ne110/31 Drilled Length (m): 21.39 Borehole Name: Cable Dean North Shields Bh31	A14SW (NW)	785	3	435340 566860
498	BGS Boreholes BGS Reference: Nz36ne15573/D111 Drilled Length (m): 15 Borehole Name: Royal Quays N Shields D111	A14SW (NW)	785	3	435369 566887
498	BGS Boreholes BGS Reference: Nz36ne110/32 Drilled Length (m): 20.42 Borehole Name: Cable Dean North Shields Bh32	A14SW (NW)	800	3	435350 566890
498	BGS Boreholes BGS Reference: Nz36ne110/33 Drilled Length (m): 16.41 Borehole Name: Cable Dean North Shields Bh33	A14SW (NW)	807	3	435350 566900

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
498	BGS Boreholes BGS Reference: Nz36ne15573/H107 Drilled Length (m): 15 Borehole Name: Royal Quays N Shields H107	A14SW (NW)	817	3	435365 566926
499	BGS Boreholes BGS Reference: Nz36ne15573/D6d Drilled Length (m): 35 Borehole Name: Royal Quays N Shields D106d	A14SW (NW)	785	3	435401 566915
499	BGS Boreholes BGS Reference: Nz36ne15573/D108 Drilled Length (m): 35 Borehole Name: Royal Quays N Shields D108	A14SW (NW)	790	3	435445 566954
499	BGS Boreholes BGS Reference: Nz36ne15573/D109 Drilled Length (m): 31 Borehole Name: Royal Quays N Shields D109	A14SW (NW)	816	3	435407 566959
500	BGS Boreholes BGS Reference: Nz36ne15573/D6e Drilled Length (m): 10 Borehole Name: Royal Quays N Shields Bhd.106e	A14SW (NW)	790	3	435402 566922
500	BGS Boreholes BGS Reference: Nz36ne110/23 Drilled Length (m): 8.36 Borehole Name: Cable Dean North Shields Bh23	A14SW (NW)	801	3	435420 566950
501	BGS Boreholes BGS Reference: Nz36ne527 Drilled Length (m): 36.63 Borehole Name: Tyne Metro Railway, South Shields Section Ba30	A3NW (S)	790	3	436043 565129
502	BGS Boreholes BGS Reference: Nz36ne15573/D110 Drilled Length (m): 15 Borehole Name: Royal Quays N Shields D110	A14SW (NW)	794	3	435418 566940
502	BGS Boreholes BGS Reference: Nz36ne110/24 Drilled Length (m): 10.49 Borehole Name: Cable Dean North Shields Bh24	A14SW (NW)	831	3	435410 566980
502	BGS Boreholes BGS Reference: Nz36ne110/25 Drilled Length (m): 10.18 Borehole Name: Cable Dean North Shields Bh25	A14SW (NW)	858	3	435420 567020
503	BGS Boreholes BGS Reference: Nz36ne15573/E105 Drilled Length (m): 16 Borehole Name: Royal Quays N Shields E105	A9NE (NW)	795	3	435193 566675
503	BGS Boreholes BGS Reference: Nz36ne15573/E104 Drilled Length (m): 15 Borehole Name: Royal Quays N Shields E104	A9NE (NW)	803	3	435199 566702
503	BGS Boreholes BGS Reference: Nz36ne110/69 Drilled Length (m): 22.25 Borehole Name: Cable Dean North Shields Bh69	A9NE (NW)	818	3	435210 566750
503	BGS Boreholes BGS Reference: Nz36ne15573/J108 Drilled Length (m): 21 Borehole Name: Royal Quays N Shields J108	A9NE (NW)	826	3	435191 566735
504	BGS Boreholes BGS Reference: Nz36ne13743/L Drilled Length (m): 11 Borehole Name: North Shields Roll On Roll Off Berth L	A9SE (W)	799	3	435100 566340
505	BGS Boreholes BGS Reference: Nz36ne15573/J7a Drilled Length (m): 33 Borehole Name: Royal Quays N Shields J107a	A9NE (NW)	803	3	435224 566744

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
505	BGS Boreholes BGS Reference: Nz36ne15573/E103 Drilled Length (m): 32 Borehole Name: Royal Quays N Shields E103	A9NE (NW)	808	3	435209 566730
506	BGS Boreholes BGS Reference: Nz36ne15573/J107 Drilled Length (m): 8 Borehole Name: Royal Quays N Shields J107	A9NE (NW)	805	3	435222 566744
507	BGS Boreholes BGS Reference: Nz36ne234 Drilled Length (m): Not Supplied Borehole Name: South Shields Silk Temple Skt4a	A3NW (S)	807	3	436109 565112
507	BGS Boreholes BGS Reference: Nz36ne230 Drilled Length (m): Not Supplied Borehole Name: South Shields Silk Temple Tp.Skt7	A3NW (S)	808	3	436087 565110
507	BGS Boreholes BGS Reference: Nz36ne224 Drilled Length (m): Not Supplied Borehole Name: South Shields Silk Temple Tp.Skt2	A3NW (S)	815	3	436069 565103
507	BGS Boreholes BGS Reference: Nz36ne231 Drilled Length (m): Not Supplied Borehole Name: South Shields Silk Temple Skt1a	A3SW (S)	827	3	436080 565091
507	BGS Boreholes BGS Reference: Nz36ne223 Drilled Length (m): Not Supplied Borehole Name: South Shields Silk Temple Tp.Skt1	A3SW (S)	828	3	436068 565090
507	BGS Boreholes BGS Reference: Nz36ne232 Drilled Length (m): Not Supplied Borehole Name: South Shields Silk Temple Skt2a	A3SW (S)	831	3	436056 565088
507	BGS Boreholes BGS Reference: Nz36ne227 Drilled Length (m): Not Supplied Borehole Name: South Shields Silk Temple Trench Skt5(li)	A3SW (S)	850	3	436089 565068
507	BGS Boreholes BGS Reference: Nz36ne228 Drilled Length (m): Not Supplied Borehole Name: South Shields Silk Temple Trench Skt5(l)	A3SW (S)	850	3	436089 565068
508	BGS Boreholes BGS Reference: Nz36ne13743/K1 Drilled Length (m): 8 Borehole Name: North Shields Roll On Roll Off Berth K1	A9SE (W)	808	3	435090 566270
509	BGS Boreholes BGS Reference: Nz36ne132/55 Drilled Length (m): 22.25 Borehole Name: Tyne Dock And Jarrow Slake Bh55	A2NW (SW)	812	3	435350 565380
510	BGS Boreholes BGS Reference: Nz36ne132/61 Drilled Length (m): 29.26 Borehole Name: Tyne Dock And Jarrow Slake Bh61	A5NE (W)	814	3	435130 565870
511	BGS Boreholes BGS Reference: Nz36ne226 Drilled Length (m): Not Supplied Borehole Name: South Shields Silk Temple Tp.Skt4	A3NW (S)	817	3	436121 565102
511	BGS Boreholes BGS Reference: Nz36ne225 Drilled Length (m): Not Supplied Borehole Name: South Shields Silk Temple Tp.Skt3	A3SW (S)	827	3	436123 565092
511	BGS Boreholes BGS Reference: Nz36ne233 Drilled Length (m): Not Supplied Borehole Name: South Shields Silk Temple Skt3a	A3SW (S)	839	3	436121 565080

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
511	BGS Boreholes BGS Reference: Nz36ne229 Drilled Length (m): Not Supplied Borehole Name: South Shields Silk Temple Tp.Skt6	A3SW (S)	850	3	436122 565069
511	BGS Boreholes BGS Reference: Nz36ne235 Drilled Length (m): Not Supplied Borehole Name: South Shields Silk Temple Skt5a	A3SW (S)	861	3	436122 565058
512	BGS Boreholes BGS Reference: Nz36ne74 Drilled Length (m): 1.68 Borehole Name: Deans Lane Crossing S Shields	A3SW (S)	818	3	436100 565100
512	BGS Boreholes BGS Reference: Nz36ne1067 Drilled Length (m): 6.15 Borehole Name: Sikh Temple, South Shields 1	A3SW (S)	818	3	436085 565100
512	BGS Boreholes BGS Reference: Nz36ne1068 Drilled Length (m): 8.55 Borehole Name: Sikh Temple, South Shields 2	A3SW (S)	842	3	436101 565076
513	BGS Boreholes BGS Reference: Nz36ne13743/H Drilled Length (m): 11 Borehole Name: North Shields Roll On Roll Off Berth H	A9SE (W)	818	3	435080 566280
513	BGS Boreholes BGS Reference: Nz36ne13743/22 Drilled Length (m): 21 Borehole Name: North Shields Roll On Roll Off Berth 22	A9SE (W)	818	3	435080 566270
513	BGS Boreholes BGS Reference: Nz36ne13743/21 Drilled Length (m): 18 Borehole Name: North Shields Roll On Roll Off Berth 21	A9SE (W)	818	3	435080 566280
513	BGS Boreholes BGS Reference: Nz36ne13743/30 Drilled Length (m): 20 Borehole Name: North Shields Roll On Roll Off Berth 30	A9SE (W)	849	3	435050 566240
514	BGS Boreholes BGS Reference: Nz36ne2 Drilled Length (m): 34.9 Borehole Name: Proposed Quay At Tyne Dock	A5NE (W)	819	3	435126 565855
515	BGS Boreholes BGS Reference: Nz36ne528 Drilled Length (m): 13.6 Borehole Name: Tyne Metro Railway, South Shields Section Ba30a	A3SW (S)	822	3	436030 565098
515	BGS Boreholes BGS Reference: Nz36ne530 Drilled Length (m): 10.7 Borehole Name: Tyne Metro Railway, South Shields Section Ba32	A2SE (S)	851	3	435996 565072
515	BGS Boreholes BGS Reference: Nz36ne529 Drilled Length (m): 10.2 Borehole Name: Tyne Metro Railway, South Shields Section Ba31	A3SW (S)	855	3	436015 565066
516	BGS Boreholes BGS Reference: Nz36ne13726/1 Drilled Length (m): 19 Borehole Name: South Shields Town Hall Bh1	A15SE (NE)	824	3	436630 566840
516	BGS Boreholes BGS Reference: Nz36ne13726/2 Drilled Length (m): 15 Borehole Name: South Shields Town Hall Bh2	A15SE (NE)	831	3	436620 566860
516	BGS Boreholes BGS Reference: Nz36ne938 Drilled Length (m): 19.5 Borehole Name: South Shields Town Hall Complex 1.	A15SE (NE)	839	3	436638 566853

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
516	BGS Boreholes BGS Reference: Nz36ne13726/3 Drilled Length (m): 17 Borehole Name: South Shields Town Hall Bh3	A15SE (NE)	845	3	436640 566860
516	BGS Boreholes BGS Reference: Nz36ne939 Drilled Length (m): 15.5 Borehole Name: South Shields Town Hall Complex 2.	A15SE (NE)	845	3	436626 566873
516	BGS Boreholes BGS Reference: Nz36ne940 Drilled Length (m): 17.3 Borehole Name: South Shields Town Hall Complex 3.	A15SE (NE)	854	3	436646 566866
516	BGS Boreholes BGS Reference: Nz36ne13726/4 Drilled Length (m): 14 Borehole Name: South Shields Town Hall Bh4	A15SE (NE)	860	3	436660 566860
516	BGS Boreholes BGS Reference: Nz36ne941 Drilled Length (m): 14 Borehole Name: South Shields Town Hall Complex 4.	A15SE (NE)	865	3	436664 566864
516	BGS Boreholes BGS Reference: Nz36ne13726/7 Drilled Length (m): 27 Borehole Name: South Shields Town Hall Bh7	A15SE (NE)	874	3	436670 566870
517	BGS Boreholes BGS Reference: Nz36ne1112 Drilled Length (m): 5 Borehole Name: Area 1, Tyne Dock Development, South Shields 3	A5SE (SW)	824	3	435156 565685
517	BGS Boreholes BGS Reference: Nz36ne1113 Drilled Length (m): 5 Borehole Name: Area 1, Tyne Dock Development, South Shields 4	A5SE (SW)	848	3	435137 565667
518	BGS Boreholes BGS Reference: Nz36ne198/B19 Drilled Length (m): 14.48 Borehole Name: Tyneside Sewerage South Shields S19	A2NE (S)	825	3	435820 565120
518	BGS Boreholes BGS Reference: Nz36ne430 Drilled Length (m): 29.25 Borehole Name: A194 West Approach South Shields 12	A2NE (S)	846	3	435774 565107
518	BGS Boreholes BGS Reference: Nz36ne429 Drilled Length (m): 28.7 Borehole Name: A194 West Approach South Shields 11	A2NE (S)	848	3	435765 565107
518	BGS Boreholes BGS Reference: Nz36ne428 Drilled Length (m): 29.1 Borehole Name: A194 West Approach South Shields 10	A2NE (S)	859	3	435736 565102
519	BGS Boreholes BGS Reference: Nz36ne15573/Tpj6 Drilled Length (m): 2 Borehole Name: Royal Quays N Shields J106	A13SE (NW)	825	3	435235 566798
520	BGS Boreholes BGS Reference: Nz36ne13743/M Drilled Length (m): 11 Borehole Name: North Shields Roll On Roll Off Berth M	A9SE (W)	828	3	435070 566310
520	BGS Boreholes BGS Reference: Nz36ne113/48 Drilled Length (m): 16.38 Borehole Name: Whitehill Point North Shields 48	A9SE (W)	844	3	435054 566283
520	BGS Boreholes BGS Reference: Nz36ne13743/3 Drilled Length (m): 22 Borehole Name: North Shields Roll On Roll Off Berth 3	A9SE (W)	849	3	435050 566250

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
520	BGS Boreholes BGS Reference: Nz36ne113/47 Drilled Length (m): 17.27 Borehole Name: Whitehill Point North Shields 47	A9SE (W)	854	3	435044 566298
520	BGS Boreholes BGS Reference: Nz36ne113/46 Drilled Length (m): 16.53 Borehole Name: Whitehill Point North Shields 46	A9SE (W)	864	3	435034 566279
520	BGS Boreholes BGS Reference: Nz36ne113/45 Drilled Length (m): 17.68 Borehole Name: Whitehill Point North Shields 45	A9SE (W)	868	3	435030 566289
520	BGS Boreholes BGS Reference: Nz36ne113/44 Drilled Length (m): 16.59 Borehole Name: Whitehill Point North Shields 44	A9SE (W)	877	3	435022 566255
520	BGS Boreholes BGS Reference: Nz36ne113/43 Drilled Length (m): 17.4 Borehole Name: Whitehill Point North Shields 43	A9SE (W)	890	3	435008 566270
521	BGS Boreholes BGS Reference: Nz36ne110/20 Drilled Length (m): 9.52 Borehole Name: Cable Dean North Shields Bh20	A14SW (NW)	836	3	435460 567020
522	BGS Boreholes BGS Reference: Nz36ne1110 Drilled Length (m): 5 Borehole Name: Area 1, Tyne Dock Development, South Shields 1	A5SE (SW)	839	3	435126 565739
522	BGS Boreholes BGS Reference: Nz36ne1114 Drilled Length (m): 5 Borehole Name: Area 1, Tyne Dock Development, South Shields 5	A5SE (SW)	854	3	435118 565710
523	BGS Boreholes BGS Reference: Nz36ne201/W10 Drilled Length (m): 3.66 Borehole Name: Tyneside Sewerage Howdon Works W10	A9SE (W)	840	3	435060 566370
524	BGS Boreholes BGS Reference: Nz36ne243 Drilled Length (m): 2.4 Borehole Name: South Shields Ingham Infirmary Tp3	A12SW (E)	841	3	436950 566179
524	BGS Boreholes BGS Reference: Nz36ne242 Drilled Length (m): 3.3 Borehole Name: South Shields Ingham Infirmary Tp2	A12SW (E)	864	3	436971 566198
524	BGS Boreholes BGS Reference: Nz36ne244 Drilled Length (m): .9 Borehole Name: South Shields Ingham Infirmary Tp4	A12SW (E)	868	3	436979 566166
524	BGS Boreholes BGS Reference: Nz36ne250 Drilled Length (m): 3.2 Borehole Name: South Shields Ingham Infirmary Tp11	A12SW (E)	878	3	436992 566126
524	BGS Boreholes BGS Reference: Nz36ne245 Drilled Length (m): 2.8 Borehole Name: South Shields Ingham Infirmary Tp5	A12SW (E)	898	3	437010 566162
524	BGS Boreholes BGS Reference: Nz36ne249 Drilled Length (m): 2.6 Borehole Name: South Shields Ingham Infirmary Tp10	A12SE (E)	908	3	437021 566142
525	BGS Boreholes BGS Reference: Nz36ne14939/5 Drilled Length (m): 20 Borehole Name: Wharton St/Hyde St S. Shields	A12NW (NE)	842	3	436819 566602

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
525	BGS Boreholes BGS Reference: Nz36ne14939/3 Drilled Length (m): 20 Borehole Name: Wharton St/Hyde St S. Shields	A12NW (NE)	880	3	436851 566623
525	BGS Boreholes BGS Reference: Nz36ne14939/2 Drilled Length (m): 20 Borehole Name: Wharton St/Hyde St S. Shields	A12NW (NE)	888	3	436858 566628
526	BGS Boreholes BGS Reference: Nz36ne798 Drilled Length (m): 1 Borehole Name: South Shields Fire Station. Th 1	A15SW (N)	842	3	436331 567054
526	BGS Boreholes BGS Reference: Nz36ne800 Drilled Length (m): .7 Borehole Name: South Shields Fire Station. Th 3	A15SW (N)	877	3	436297 567103
526	BGS Boreholes BGS Reference: Nz36ne799 Drilled Length (m): .6 Borehole Name: South Shields Fire Station. Th 2	A15SW (N)	880	3	436330 567095
526	BGS Boreholes BGS Reference: Nz36ne495 Drilled Length (m): 4 Borehole Name: Tyne Metro Railway, South Shields Section Ba4	A15SE (N)	903	3	436360 567109
527	BGS Boreholes BGS Reference: Nz36ne639 Drilled Length (m): 4.26 Borehole Name: Lower Reaches Of The River Tyne, Newcastle-Upon-Tyne	A14SW (NW)	846	3	435571 567088
528	BGS Boreholes BGS Reference: Nz36ne198/B32 Drilled Length (m): 7.62 Borehole Name: Tyneside Sewerage South Shields S32	A15SW (N)	847	3	436270 567080
529	BGS Boreholes BGS Reference: Nz36ne14939/4 Drilled Length (m): 10 Borehole Name: Wharton St/Hyde St S. Shields	A12NW (NE)	852	3	436827 566608
530	BGS Boreholes BGS Reference: Nz36ne15573/H106 Drilled Length (m): 36 Borehole Name: Royal Quays N Shields H106	A13SE (NW)	854	3	435310 566927
531	BGS Boreholes BGS Reference: Nz36ne1019 Drilled Length (m): 8 Borehole Name: Nursing Home, Mowbray Road South Shields 2	A12SW (E)	854	3	436949 566262
531	BGS Boreholes BGS Reference: Nz36ne1020 Drilled Length (m): 8 Borehole Name: Nursing Home, Mowbray Road South Shields 3	A12SW (E)	864	3	436955 566280
531	BGS Boreholes BGS Reference: Nz36ne1018 Drilled Length (m): 8 Borehole Name: Nursing Home, Mowbray Road South Shields 1	A12SW (E)	880	3	436973 566274
531	BGS Boreholes BGS Reference: Nz36ne241 Drilled Length (m): 2.5 Borehole Name: South Shields Ingham Infirmary Tp1	A12SW (E)	898	3	436999 566236
532	BGS Boreholes BGS Reference: Nz36ne13743/2 Drilled Length (m): 23 Borehole Name: North Shields Roll On Roll Off Berth 2	A9SE (W)	859	3	435040 566240
532	BGS Boreholes BGS Reference: Nz36ne13743/29 Drilled Length (m): 17 Borehole Name: North Shields Roll On Roll Off Berth 29	A9SE (W)	859	3	435040 566240

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
532	BGS Boreholes BGS Reference: Nz36ne13743/1 Drilled Length (m): 23 Borehole Name: North Shields Roll On Roll Off Berth 1	A9SE (W)	870	3	435030 566230
533	BGS Boreholes BGS Reference: Nz36ne201/W7 Drilled Length (m): 2.74 Borehole Name: Tyneside Sewerage Howdon Works W7	A9NE (NW)	860	3	435070 566540
534	BGS Boreholes BGS Reference: Nz36ne132/40 Drilled Length (m): 16.33 Borehole Name: Tyne Dock And Jarrow Slake Bh40	A2NW (SW)	863	3	435380 565280
535	BGS Boreholes BGS Reference: Nz36ne201/W8 Drilled Length (m): 2.74 Borehole Name: Tyneside Sewerage Howdon Works W8	A9NE (W)	867	3	435050 566490
536	BGS Boreholes BGS Reference: Nz36ne1315 Drilled Length (m): 3 Borehole Name: Mowbray Road, South Shields Tp4	A12SW (E)	869	3	436930 566380
537	BGS Boreholes BGS Reference: Nz36ne132/60 Drilled Length (m): 26.52 Borehole Name: Tyne Dock And Jarrow Slake Bh60	A5SE (SW)	871	3	435130 565620
538	BGS Boreholes BGS Reference: Nz36ne447 Drilled Length (m): 1.9 Borehole Name: A194 West Approach South Shields Tpk	A2SE (S)	872	3	435703 565098
539	BGS Boreholes BGS Reference: Nz36ne13726/5 Drilled Length (m): 25 Borehole Name: South Shields Town Hall Bh5	A15SE (NE)	874	3	436650 566890
539	BGS Boreholes BGS Reference: Nz36ne13726/6 Drilled Length (m): 24 Borehole Name: South Shields Town Hall Bh6	A15SE (NE)	874	3	436680 566860
539	BGS Boreholes BGS Reference: Nz36ne942 Drilled Length (m): 25 Borehole Name: South Shields Town Hall Complex 5.	A15SE (NE)	882	3	436656 566895
539	BGS Boreholes BGS Reference: Nz36ne944 Drilled Length (m): 27 Borehole Name: South Shields Town Hall Complex 7.	A15SE (NE)	883	3	436680 566873
539	BGS Boreholes BGS Reference: Nz36ne943 Drilled Length (m): 24 Borehole Name: South Shields Town Hall Complex 6.	A16SW (NE)	884	3	436690 566863
539	BGS Boreholes BGS Reference: Nz36ne13726/9 Drilled Length (m): 19 Borehole Name: South Shields Town Hall Bh9	A16SW (NE)	896	3	436700 566870
539	BGS Boreholes BGS Reference: Nz36ne945 Drilled Length (m): 19.2 Borehole Name: South Shields Town Hall Complex 9.	A16SW (NE)	903	3	436709 566871
539	BGS Boreholes BGS Reference: Nz36ne89 Drilled Length (m): 12.16 Borehole Name: Bore At South Shields	A15SE (NE)	909	3	436680 566910
539	BGS Boreholes BGS Reference: Nz36ne13726/15 Drilled Length (m): 20 Borehole Name: South Shields Town Hall Bh15	A15SE (NE)	909	3	436680 566910

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
539	BGS Boreholes BGS Reference: Nz36ne13726/13 Drilled Length (m): 17 Borehole Name: South Shields Town Hall Bh13	A16SW (NE)	916	3	436700 566900
539	BGS Boreholes BGS Reference: Nz36ne949 Drilled Length (m): 20.1 Borehole Name: South Shields Town Hall Complex 15.	A16SW (NE)	920	3	436693 566913
539	BGS Boreholes BGS Reference: Nz36ne947 Drilled Length (m): 17.8 Borehole Name: South Shields Town Hall Complex 13.	A16SW (NE)	927	3	436707 566908
539	BGS Boreholes BGS Reference: Nz36ne13726/12 Drilled Length (m): 26 Borehole Name: South Shields Town Hall Bh12	A16SW (NE)	931	3	436720 566900
540	BGS Boreholes BGS Reference: Nz36ne110/21 Drilled Length (m): 10.67 Borehole Name: Cable Dean North Shields Bh21	A14SW (NW)	879	3	435460 567070
540	BGS Boreholes BGS Reference: Nz36ne110/22 Drilled Length (m): 11.35 Borehole Name: Cable Dean North Shields Bh22	A14SW (NW)	906	3	435460 567100
541	BGS Boreholes BGS Reference: Nz36ne412 Drilled Length (m): 21.33 Borehole Name: South Shields, Tyne Dock 5	A14NE (N)	880	3	435924 567187
541	BGS Boreholes BGS Reference: Nz36ne410 Drilled Length (m): 21.33 Borehole Name: South Shields, Tyne Dock 3	A14NE (N)	918	3	435924 567225
542	BGS Boreholes BGS Reference: Nz36ne797 Drilled Length (m): 10.1 Borehole Name: Fire Station, South Shields. Bh 1	A15SW (N)	883	3	436313 567104
543	BGS Boreholes BGS Reference: Nz36ne411 Drilled Length (m): 8.54 Borehole Name: South Shields, Tyne Dock 4	A14NE (N)	884	3	435923 567191
544	BGS Boreholes BGS Reference: Nz36ne201/W9 Drilled Length (m): 3.05 Borehole Name: Tyneside Sewerage Howdon Works W9	A9SE (W)	885	3	435020 566420
545	BGS Boreholes BGS Reference: Nz36ne132/62 Drilled Length (m): 28.66 Borehole Name: Tyne Dock And Jarrow Slake Bh62	A5NE (W)	886	3	435060 565840
546	BGS Boreholes BGS Reference: Nz36ne15573/E107 Drilled Length (m): 15 Borehole Name: Royal Quays N Shields E107	A9NE (NW)	886	3	435113 566719
546	BGS Boreholes BGS Reference: Nz36ne15573/E106 Drilled Length (m): 13 Borehole Name: Royal Quays N Shields E106	A9NE (NW)	894	3	435121 566750
547	BGS Boreholes BGS Reference: Nz36ne15573/Tpj4 Drilled Length (m): 3 Borehole Name: Royal Quays N Shields J104	A13SE (NW)	886	3	435238 566898
548	BGS Boreholes BGS Reference: Nz36ne1132 Drilled Length (m): 1.3 Borehole Name: Nos 23 & 21 Berkeley St., South Shields Tp 2	A16SW (NE)	888	3	436755 566791

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
548	BGS Boreholes BGS Reference: Nz36ne1131 Drilled Length (m): 1.5 Borehole Name: Nos 23 & 21 Berkeley St., South Shields Tp 1	A16SW (NE)	897	3	436763 566796
549	BGS Boreholes BGS Reference: Nz36ne201/W5 Drilled Length (m): 9.91 Borehole Name: Tyneside Sewerage Howdon Works W5	A9NE (NW)	891	3	435060 566610
550	BGS Boreholes BGS Reference: Nz36ne14939/1 Drilled Length (m): 14 Borehole Name: Wharton St/Hyde St S. Shields	A12NW (NE)	895	3	436863 566632
551	BGS Boreholes BGS Reference: Nz36ne198/B18 Drilled Length (m): 17.98 Borehole Name: Tyneside Sewerage South Shields S18	A2SE (S)	897	3	435750 565060
552	BGS Boreholes BGS Reference: Nz36ne531 Drilled Length (m): 9 Borehole Name: Tyne Metro Railway, South Shields Section Ba33	A2SE (S)	897	3	435975 565028
552	BGS Boreholes BGS Reference: Nz36ne557 Drilled Length (m): 3.1 Borehole Name: Tyne Metro Railway, South Shields Section Tp.Ta20	A2SE (S)	921	3	436000 565001
553	BGS Boreholes BGS Reference: Nz36ne100/9 Drilled Length (m): 32.16 Borehole Name: New Dry Dock North Shields 9	A14SW (NW)	900	3	435420 567070
553	BGS Boreholes BGS Reference: Nz36ne100/12 Drilled Length (m): 42.67 Borehole Name: New Dry Dock North Shields 12	A14SW (NW)	947	3	435380 567100
554	BGS Boreholes BGS Reference: Nz36ne15357/2 Drilled Length (m): 22 Borehole Name: S Shields Mortimer Road 2	A4NW (SE)	900	3	436777 565341
555	BGS Boreholes BGS Reference: Nz36ne15573/Tpj9 Drilled Length (m): 4 Borehole Name: Royal Quays N Shields J109	A9NE (NW)	901	3	435116 566754
556	BGS Boreholes BGS Reference: Nz36ne252 Drilled Length (m): 3 Borehole Name: South Shields Ingham Infirmary Tp13	A8NE (E)	907	3	437023 566090
556	BGS Boreholes BGS Reference: Nz36ne251 Drilled Length (m): 2.9 Borehole Name: South Shields Ingham Infirmary Tp12	A8NE (E)	924	3	437039 566112
556	BGS Boreholes BGS Reference: Nz36ne254 Drilled Length (m): 1.2 Borehole Name: South Shields Ingham Infirmary Tp14a	A8NE (E)	934	3	437050 566082
557	BGS Boreholes BGS Reference: Nz36ne110/53 Drilled Length (m): 28.24 Borehole Name: Cable Dean North Shields Bh53	A13SE (NW)	913	3	435260 566960
557	BGS Boreholes BGS Reference: Nz36ne15573/H105 Drilled Length (m): 15 Borehole Name: Royal Quays N Shields H105	A13SE (NW)	919	3	435230 566939
557	BGS Boreholes BGS Reference: Nz36ne110/57 Drilled Length (m): 27.53 Borehole Name: Cable Dean North Shields Bh57	A13SE (NW)	948	3	435210 566960

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
557	BGS Boreholes BGS Reference: Nz36ne110/62 Drilled Length (m): 22.83 Borehole Name: Cable Dean North Shields Bh62	A13SE (NW)	978	3	435170 566960
557	BGS Boreholes BGS Reference: Nz36ne110/63 Drilled Length (m): 28.85 Borehole Name: Cable Dean North Shields Bh63	A13SE (NW)	991	3	435180 566990
558	BGS Boreholes BGS Reference: Nz36ne1317 Drilled Length (m): 3.4 Borehole Name: Mowbray Road, South Shields Tp6	A12SW (E)	913	3	436980 566370
558	BGS Boreholes BGS Reference: Nz36ne1314 Drilled Length (m): 1.5 Borehole Name: Mowbray Road, South Shields Tp3	A12SW (E)	920	3	437000 566330
558	BGS Boreholes BGS Reference: Nz36ne1313 Drilled Length (m): 2 Borehole Name: Mowbray Road, South Shields Tp2	A12SW (E)	932	3	437010 566340
558	BGS Boreholes BGS Reference: Nz36ne1311 Drilled Length (m): 6 Borehole Name: Mowbray Road, South Shields Bh1.	A12SW (E)	933	3	437014 566330
558	BGS Boreholes BGS Reference: Nz36ne1312 Drilled Length (m): 1.5 Borehole Name: Mowbray Road, South Shields Tp1	A12SE (E)	939	3	437020 566330
559	BGS Boreholes BGS Reference: Nz36ne100/15 Drilled Length (m): 23.01 Borehole Name: New Dry Dock North Shields 15	A14SW (NW)	914	3	435410 567080
560	BGS Boreholes BGS Reference: Nz36nw220 Drilled Length (m): 11.67 Borehole Name: W Mooring No1 Tier, White Hill Point East Boring	A9SE (W)	914	3	434999 566115
561	BGS Boreholes BGS Reference: Nz36ne15573/S5 Drilled Length (m): 15 Borehole Name: Royal Quays N Shields 5	A13SE (NW)	915	3	435157 566844
562	BGS Boreholes BGS Reference: Nz36ne100/6 Drilled Length (m): 38.1 Borehole Name: New Dry Dock North Shields 6	A14SW (NW)	919	3	435450 567110
563	BGS Boreholes BGS Reference: Nz36nw874 Drilled Length (m): 17.55 Borehole Name: Whitehill Point North Shields 42	A9SW (W)	919	3	434982 566213
563	BGS Boreholes BGS Reference: Nz36nw873 Drilled Length (m): 17.4 Borehole Name: Whitehill Point North Shields 41	A9SW (W)	931	3	434969 566229
564	BGS Boreholes BGS Reference: Nz36ne1056 Drilled Length (m): 3.5 Borehole Name: Dwellings Southgarth West, Westoe Village 1	A8NE (E)	920	3	437020 565905
564	BGS Boreholes BGS Reference: Nz36ne1057 Drilled Length (m): 3.5 Borehole Name: Dwellings Southgarth West, Westoe Village 2	A8NW (E)	922	3	437018 565888
565	BGS Boreholes BGS Reference: Nz36ne1316 Drilled Length (m): 3.2 Borehole Name: Mowbray Road, South Shields Tp5	A12SW (E)	923	3	436980 566400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
566	BGS Boreholes BGS Reference: Nz36ne100/19 Drilled Length (m): 28.35 Borehole Name: New Dry Dock North Shields 19	A13SE (NW)	924	3	435310 567020
566	BGS Boreholes BGS Reference: Nz36ne15573/H104 Drilled Length (m): 15 Borehole Name: Royal Quays N Shields H104	A13SE (NW)	955	3	435272 567028
567	BGS Boreholes BGS Reference: Nz36ne494 Drilled Length (m): 19.3 Borehole Name: Tyne Metro Railway, South Shields Section Ba3	A15NE (N)	927	3	436364 567133
567	BGS Boreholes BGS Reference: Nz36ne493 Drilled Length (m): 13 Borehole Name: Tyne Metro Railway, South Shields Section Ba2	A15NE (N)	941	3	436356 567151
568	BGS Boreholes BGS Reference: Nz36ne1108 Drilled Length (m): 4 Borehole Name: Westoe Towers, Horsley Hill Rd., South Shields 2	A8NE (E)	929	3	437043 566023
568	BGS Boreholes BGS Reference: Nz36ne253 Drilled Length (m): 3 Borehole Name: South Shields Ingham Infirmary Tp14	A8NE (E)	932	3	437048 566072
568	BGS Boreholes BGS Reference: Nz36ne1107 Drilled Length (m): 6.5 Borehole Name: Westoe Towers, Horsley Hill Rd., South Shields 1	A8NE (E)	972	3	437087 566046
569	BGS Boreholes BGS Reference: Nz36ne13726/14 Drilled Length (m): 26 Borehole Name: South Shields Town Hall Bh14	A16SW (NE)	930	3	436700 566920
569	BGS Boreholes BGS Reference: Nz36ne946 Drilled Length (m): 26 Borehole Name: South Shields Town Hall Complex 12.	A16SW (NE)	936	3	436725 566903
569	BGS Boreholes BGS Reference: Nz36ne948 Drilled Length (m): 26.75 Borehole Name: South Shields Town Hall Complex 14.	A16SW (NE)	940	3	436711 566923
570	BGS Boreholes BGS Reference: Nz36nw305/H Drilled Length (m): 3.05 Borehole Name: North Tyne Sewerage Scheme W13	A9SW (W)	930	3	434970 566360
570	BGS Boreholes BGS Reference: Nz36nw305/G Drilled Length (m): 2.36 Borehole Name: North Tyne Sewerage Scheme W12	A9SW (W)	970	3	434930 566360
571	BGS Boreholes BGS Reference: Nz36ne15573/E114 Drilled Length (m): Not Supplied Borehole Name: Royal Quays N Shields E114	A9NE (NW)	932	3	435059 566713
572	BGS Boreholes BGS Reference: Nz36ne1139 Drilled Length (m): 3 Borehole Name: Iolanthe Terrace, South Shields Tp 1	A12NW (E)	932	3	436972 566462
572	BGS Boreholes BGS Reference: Nz36ne1138 Drilled Length (m): 6 Borehole Name: Iolanthe Terrace, South Shields 5	A12NW (E)	934	3	436962 566503
573	BGS Boreholes BGS Reference: Nz36ne1084 Drilled Length (m): 10 Borehole Name: King Street Shopping Development, South Shields 7	A15NW (N)	934	3	436079 567223

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574	BGS Boreholes BGS Reference: Nz36ne198/B18a Drilled Length (m): 10.82 Borehole Name: Tyneside Sewerage South Shields B18a	A2SE (S)	936	3	435810 565010
575	BGS Boreholes BGS Reference: Nz36ne193 Drilled Length (m): Not Supplied Borehole Name: Anderson St No14 S Shields	A16SW (NE)	937	3	436700 566930
576	BGS Boreholes BGS Reference: Nz36nw305/E Drilled Length (m): 1.52 Borehole Name: North Tyne Sewerage Scheme W6	A9NW (NW)	937	3	434990 566540
577	BGS Boreholes BGS Reference: Nz36nw872 Drilled Length (m): 15.7 Borehole Name: Whitehill Point North Shields 40	A9SW (W)	937	3	434966 566194
577	BGS Boreholes BGS Reference: Nz36nw871 Drilled Length (m): 16.13 Borehole Name: Whitehill Point North Shields 39	A9SW (W)	946	3	434955 566211
577	BGS Boreholes BGS Reference: Nz36nw870 Drilled Length (m): 14.88 Borehole Name: Whitehill Point North Shields 38	A9SW (W)	963	3	434941 566180
577	BGS Boreholes BGS Reference: Nz36nw869 Drilled Length (m): 16 Borehole Name: Whitehill Point North Shields 37	A9SW (W)	966	3	434937 566190
578	BGS Boreholes BGS Reference: Nz36ne246 Drilled Length (m): 2.7 Borehole Name: South Shields Ingham Infirmary Tp7	A12SE (E)	938	3	437046 566197
578	BGS Boreholes BGS Reference: Nz36ne247 Drilled Length (m): 1.9 Borehole Name: South Shields Ingham Infirmary Tp8	A12SE (E)	960	3	437072 566161
579	BGS Boreholes BGS Reference: Nz36nw305/F Drilled Length (m): .91 Borehole Name: North Tyne Sewerage Scheme W11	A9NW (W)	941	3	434970 566460
580	BGS Boreholes BGS Reference: Nz36ne446 Drilled Length (m): .9 Borehole Name: A194 West Approach South Shields Tpj	A2SW (S)	941	3	435638 565046
580	BGS Boreholes BGS Reference: Nz36ne167/B Drilled Length (m): 9.14 Borehole Name: Western Approach Stage 2 B7	A2SW (S)	943	3	435620 565050
580	BGS Boreholes BGS Reference: Nz36ne445 Drilled Length (m): 1.2 Borehole Name: A194 West Approach South Shields Tpi	A2SW (S)	950	3	435614 565044
580	BGS Boreholes BGS Reference: Nz36ne444 Drilled Length (m): .9 Borehole Name: A194 West Approach South Shields Tph	A2SW (S)	990	3	435589 565011
581	BGS Boreholes BGS Reference: Nz36ne132/6 Drilled Length (m): 35.05 Borehole Name: Tyne Dock And Jarrow Slake Bh6	A5SE (SW)	943	3	435110 565490
582	BGS Boreholes BGS Reference: Nz36ne110/58 Drilled Length (m): 30.68 Borehole Name: Cable Dean North Shields Bh58	A13SE (NW)	948	3	435240 566990



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
582	BGS Boreholes BGS Reference: Nz36ne15573/H102 Drilled Length (m): 34 Borehole Name: Royal Quays N Shields H102	A13SE (NW)	996	3	435207 567024
583	BGS Boreholes BGS Reference: Nz36nw305/I Drilled Length (m): 3.66 Borehole Name: North Tyne Sewerage Scheme W14	A9SW (W)	948	3	434950 566270
584	BGS Boreholes BGS Reference: Nz36ne1213 Drilled Length (m): 3.5 Borehole Name: Smiths Dock Phase 1 Tp1	A14NW (NW)	948	3	435464 567150
584	BGS Boreholes BGS Reference: Nz36ne1214 Drilled Length (m): 3.5 Borehole Name: Smiths Dock Phase 1 Tp2	A14NW (NW)	957	3	435470 567163
585	BGS Boreholes BGS Reference: Nz36nw881 Drilled Length (m): 4.57 Borehole Name: Lower Reaches Of The River Tyne, Newcastle-Upon-Tyne	A5NW (W)	949	3	434971 566063
586	BGS Boreholes BGS Reference: Nz36ne389 Drilled Length (m): 4.9 Borehole Name: King Street, South Shields Bh1b	A15NW (N)	950	3	436189 567212
586	BGS Boreholes BGS Reference: Nz36ne388 Drilled Length (m): 4.95 Borehole Name: King Street, South Shields Bh1	A15NW (N)	952	3	436190 567213
586	BGS Boreholes BGS Reference: Nz36ne1082 Drilled Length (m): 10 Borehole Name: King Street Shopping Development, South Shields 6	A15NW (N)	980	3	436162 567251
586	BGS Boreholes BGS Reference: Nz36ne390 Drilled Length (m): 1.7 Borehole Name: King Street, South Shields Bh3x	A15NW (N)	986	3	436180 567252
587	BGS Boreholes BGS Reference: Nz36se131 Drilled Length (m): 9.95 Borehole Name: Tyne Metro Railway, South Shields Section Ba34	A2SE (S)	952	3	435953 564976
587	BGS Boreholes BGS Reference: Nz36se132 Drilled Length (m): 9.8 Borehole Name: Tyne Metro Railway, South Shields Section Ba35	A2SE (S)	979	3	435959 564948
588	BGS Boreholes BGS Reference: Nz36ne1045 Drilled Length (m): 16 Borehole Name: Anderson Street, South Shields 1	A15SE (NE)	954	3	436634 567011
588	BGS Boreholes BGS Reference: Nz36ne1046 Drilled Length (m): 15.5 Borehole Name: Anderson Street, South Shields 2	A15SE (NE)	978	3	436639 567038
589	BGS Boreholes BGS Reference: Nz36ne882 Drilled Length (m): 21.03 Borehole Name: Dredging Of River Frontage, South Shields 1.	A14NE (N)	957	3	435918 567264
589	BGS Boreholes BGS Reference: Nz36ne883 Drilled Length (m): 10.64 Borehole Name: Dredging Of River Frontage, South Shields 2.	A14NE (N)	987	3	435915 567294
590	BGS Boreholes BGS Reference: Nz36ne1085 Drilled Length (m): 10 Borehole Name: King Street Shopping Development, South Shields 8	A15NW (N)	960	3	436217 567214

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
591	BGS Boreholes BGS Reference: Nz36ne31 Drilled Length (m): 35.86 Borehole Name: Westoe South Shields	A12NW (NE)	961	3	436900 566700
592	BGS Boreholes BGS Reference: Nz36ne132/41 Drilled Length (m): 2.44 Borehole Name: Tyne Dock And Jarrow Slake Bh41	A2NW (SW)	963	3	435430 565120
592	BGS Boreholes BGS Reference: Nz36ne132/42 Drilled Length (m): 3.05 Borehole Name: Tyne Dock And Jarrow Slake Bh42	A2SW (SW)	979	3	435450 565090
593	BGS Boreholes BGS Reference: Nz36ne1079 Drilled Length (m): 20 Borehole Name: King Street Shopping Development, South Shields 3	A15NW (N)	964	3	436122 567245
593	BGS Boreholes BGS Reference: Nz36ne1081 Drilled Length (m): 20 Borehole Name: King Street Shopping Development, South Shields 4	A15NW (N)	964	3	436100 567250
593	BGS Boreholes BGS Reference: Nz36ne1080 Drilled Length (m): 20 Borehole Name: King Street Shopping Development, South Shields 2	A15NW (N)	999	3	436145 567275
594	BGS Boreholes BGS Reference: Nz36ne15573/J103 Drilled Length (m): 31 Borehole Name: Royal Quays N Shields J103	A13SE (NW)	966	3	435153 566923
595	BGS Boreholes BGS Reference: Nz36ne1178 Drilled Length (m): 20 Borehole Name: Smiths Dock Phase 1 Bh1	A14NW (NW)	967	3	435462 567170
596	BGS Boreholes BGS Reference: Nz36ne139/A Drilled Length (m): 1.22 Borehole Name: Anderson Street South Shields 1	A15SE (NE)	968	3	436680 566990
596	BGS Boreholes BGS Reference: Nz36ne139/B Drilled Length (m): 1.07 Borehole Name: Anderson Street South Shields 2	A15SE (NE)	984	3	436670 567020
597	BGS Boreholes BGS Reference: Nz36ne1137 Drilled Length (m): 18 Borehole Name: Iolanthe Terrace, South Shields 4	A12NW (E)	971	3	437009 566476
598	BGS Boreholes BGS Reference: Nz36ne248 Drilled Length (m): 2 Borehole Name: South Shields Ingham Infirmary Tp9	A12SE (E)	972	3	437086 566129
599	BGS Boreholes BGS Reference: Nz36ne15573/E110 Drilled Length (m): 37 Borehole Name: Royal Quays N Shields E110	A9NE (NW)	972	3	435028 566741
600	BGS Boreholes BGS Reference: Nz36ne88 Drilled Length (m): 11.92 Borehole Name: Bore At South Shields	A15NW (N)	973	3	436340 567190
600	BGS Boreholes BGS Reference: Nz36ne198/B33 Drilled Length (m): 11.73 Borehole Name: Tyneside Sewerage South Shields S33	A15NW (N)	973	3	436340 567190
601	BGS Boreholes BGS Reference: Nz36ne15573/E109 Drilled Length (m): 15 Borehole Name: Royal Quays N Shields E109	A9NE (NW)	973	3	435040 566766

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
601	BGS Boreholes BGS Reference: Nz36ne15573/E108 Drilled Length (m): 15 Borehole Name: Royal Quays N Shields E108	A9NE (NW)	974	3	435048 566782
601	BGS Boreholes BGS Reference: Nz36ne15573/J10a Drilled Length (m): 26 Borehole Name: Royal Quays N Shields J110a	A9NE (NW)	980	3	435033 566769
602	BGS Boreholes BGS Reference: Nz36nw375 Drilled Length (m): 14.23 Borehole Name: W Mooring No1 Tier White Hill Point West Boring	A5NW (W)	976	3	434941 566083
603	BGS Boreholes BGS Reference: Nz36ne1122 Drilled Length (m): 3.5 Borehole Name: Areas 2 & 3, Tyne Dock Development, South Shields Tp 15	A1NE (SW)	976	3	435180 565325
604	BGS Boreholes BGS Reference: Nz36ne15357/3 Drilled Length (m): 19 Borehole Name: S Shields Mortimer Road 3	A4NW (SE)	980	3	436824 565273
605	BGS Boreholes BGS Reference: Nz36ne15573/J110 Drilled Length (m): 7 Borehole Name: Royal Quays N Shields J110	A9NE (NW)	980	3	435036 566773
606	BGS Boreholes BGS Reference: Nz36ne15573/Btp5 Drilled Length (m): 3 Borehole Name: Royal Quays N Shields Tp5	A14SW (NW)	982	3	435336 567113
607	BGS Boreholes BGS Reference: Nz36ne15573/H103 Drilled Length (m): 15 Borehole Name: Royal Quays N Shields H103	A13SE (NW)	983	3	435265 567060
607	BGS Boreholes BGS Reference: Nz36ne100/17 Drilled Length (m): 17.98 Borehole Name: New Dry Dock North Shields 17	A13SE (NW)	987	3	435260 567060
608	BGS Boreholes BGS Reference: Nz36ne100/7 Drilled Length (m): 48.16 Borehole Name: New Dry Dock North Shields 7	A14NW (NW)	984	3	435390 567150
609	BGS Boreholes BGS Reference: Nz36ne15573/Pe15 Drilled Length (m): Not Supplied Borehole Name: Royal Quays N Shields Bhipe115	A9NE (NW)	984	3	435012 566736
610	BGS Boreholes BGS Reference: Nz36ne1083 Drilled Length (m): 15 Borehole Name: King Street Shopping Development, South Shields 5	A15NW (N)	986	3	436202 567245
611	BGS Boreholes BGS Reference: Nz36ne15573/Btp4 Drilled Length (m): 3 Borehole Name: Royal Quays N Shields Tp4	A14NW (NW)	990	3	435383 567153
612	BGS Boreholes BGS Reference: Nz36se69/B17 Drilled Length (m): 15.24 Borehole Name: Tyneside Sewerage South Shields S17	A2SW (S)	990	3	435650 564990
613	BGS Boreholes BGS Reference: Nz36ne1140 Drilled Length (m): 3 Borehole Name: Iolanthe Terrace, South Shields Tp 2	A12NW (E)	990	3	437013 566526
614	BGS Boreholes BGS Reference: Nz36ne100/13 Drilled Length (m): 24.99 Borehole Name: New Dry Dock North Shields 13	A13SE (NW)	995	3	435310 567110

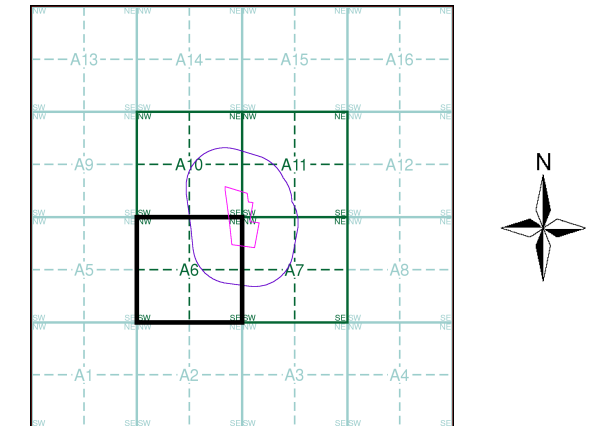
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615	BGS Boreholes BGS Reference: Nz36ne15357/4 Drilled Length (m): 14 Borehole Name: S Shields Mortimer Road 4	A4NW (SE)	996	3	436887 565325
616	BGS Boreholes BGS Reference: Nz36ne132/5 Drilled Length (m): 29.87 Borehole Name: Tyne Dock And Jarrow Slake Bh5	A1NE (SW)	998	3	435100 565400
617	BGS Boreholes BGS Reference: Nz36nw141/C Drilled Length (m): 18.21 Borehole Name: Jarrow Slake C	A5NW (W)	998	3	434950 565820
618	BGS Boreholes BGS Reference: Nz36nw305/D Drilled Length (m): 8.99 Borehole Name: North Tyne Sewerage Scheme W4	A9NW (NW)	998	3	434980 566700

BGS Boreholes	Version	Update Cycle
BGS Boreholes British Geological Survey - National Geoscience Information Service	April 2011	Quarterly

Contact Details	Contact Logo
<p>3 British Geological Survey - Enquiry Service</p> <p>British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG</p> <p>Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk</p>	 <p>British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL</p>
<p>- Landmark Information Group Limited</p> <p>The Smith Centre, Henley On Thames, Oxfordshire, RG9 6AB</p> <p>Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk</p>	

- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
 - Several of Type at Location
 - Pylon
 - Overhead Transmission Line
- Agency and Hydrological**
- Contaminated Land Register Entry or Notice (Location)
 - Contaminated Land Register Entry or Notice
 - Discharge Consent
 - Enforcement or Prohibition Notice
 - Integrated Pollution Control
 - Integrated Pollution Prevention Control
 - Local Authority Integrated Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control Enforcement
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 - Prosecution Relating to Authorised Processes
 - Prosecution Relating to Controlled Waters
 - Registered Radioactive Substance
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 - Substantiated Pollution Incident Register
 - Water Abstraction
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- Waste**
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 - BGS Recorded Landfill Site
 - EA Historic Landfill (Buffered Point)
 - EA Historic Landfill (Polygon)
 - Integrated Pollution Control Registered Waste Site
 - Licensed Waste Management Facility (Landfill Boundary)
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 - Local Authority Recorded Landfill Site (Location)
 - Local Authority Recorded Landfill Site
 - Registered Landfill Site
 - Registered Landfill Site (Location)
 - Registered Landfill Site (Point Buffered to 100m)
 - Registered Landfill Site (Point Buffered to 250m)
 - Registered Waste Transfer Site (Location)
 - Registered Waste Transfer Site
 - Registered Waste Treatment or Disposal Site (Location)
 - Registered Waste Treatment or Disposal Site
- Hazardous Substances**
- COMAH Site
 - Explosive Site
 - NIHHS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement
- Geological**
- BGS Recorded Mineral Site
- Industrial Land Use**
- Contemporary Trade Directory Entry
 - Fuel Station Entry

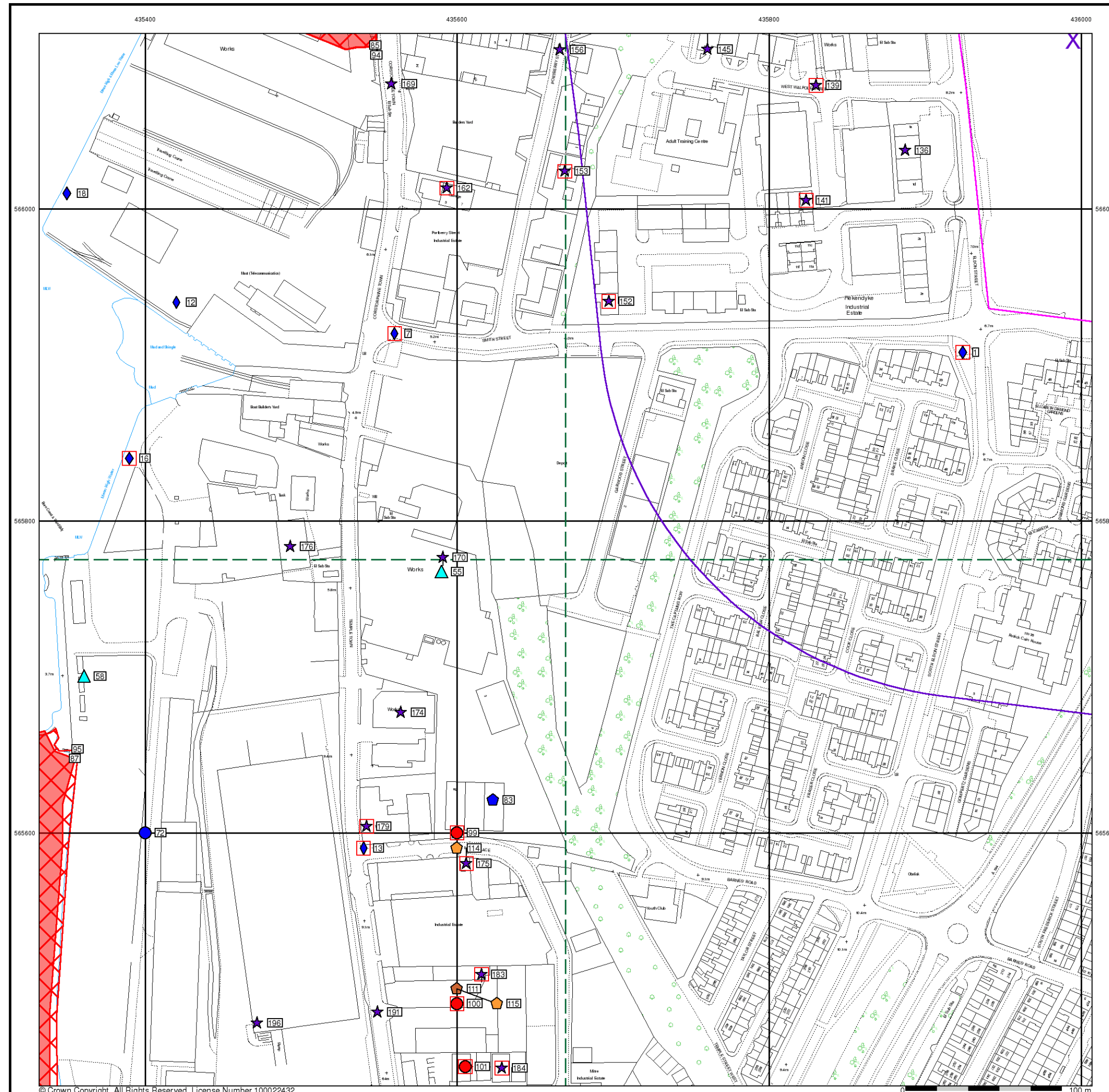
Site Sensitivity Map - Segment A6



Order Details

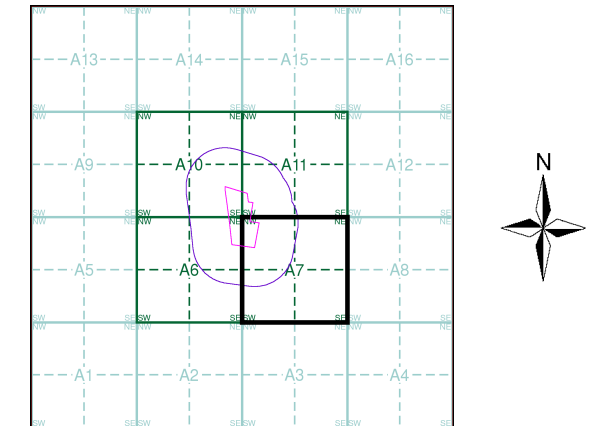
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 Slice: A
 Site Area (Ha): 5.6
 Plot Buffer (m): 250

Site Details
 Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
 - Several of Type at Location
 - Pylon
 - Overhead Transmission Line
- Agency and Hydrological**
- Contaminated Land Register Entry or Notice (Location)
 - Contaminated Land Register Entry or Notice
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 - Local Authority Pollution Prevention and Control Enforcement
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- Waste**
- BGS Recorded Landfill Site (Location)
 - BGS Recorded Landfill Site
 - EA Historic Landfill (Buffered Point)
 - EA Historic Landfill (Polygon)
 - Integrated Pollution Control Registered Waste Site
 - Licensed Waste Management Facility (Landfill Boundary)
 - Licensed Waste Management Facility (Location)
 - Local Authority Recorded Landfill Site (Location)
 - Local Authority Recorded Landfill Site
 - Registered Landfill Site
 - Registered Landfill Site (Location)
 - Registered Landfill Site (Point Buffered to 100m)
 - Registered Landfill Site (Point Buffered to 250m)
 - Registered Waste Transfer Site (Location)
 - Registered Waste Transfer Site
 - Registered Waste Treatment or Disposal Site (Location)
 - Registered Waste Treatment or Disposal Site
- Geological**
- BGS Recorded Mineral Site
- Industrial Land Use**
- Contemporary Trade Directory Entry
 - Fuel Station Entry
 - COMAH Site
 - Explosive Site
 - NIHHS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement

Site Sensitivity Map - Segment A7

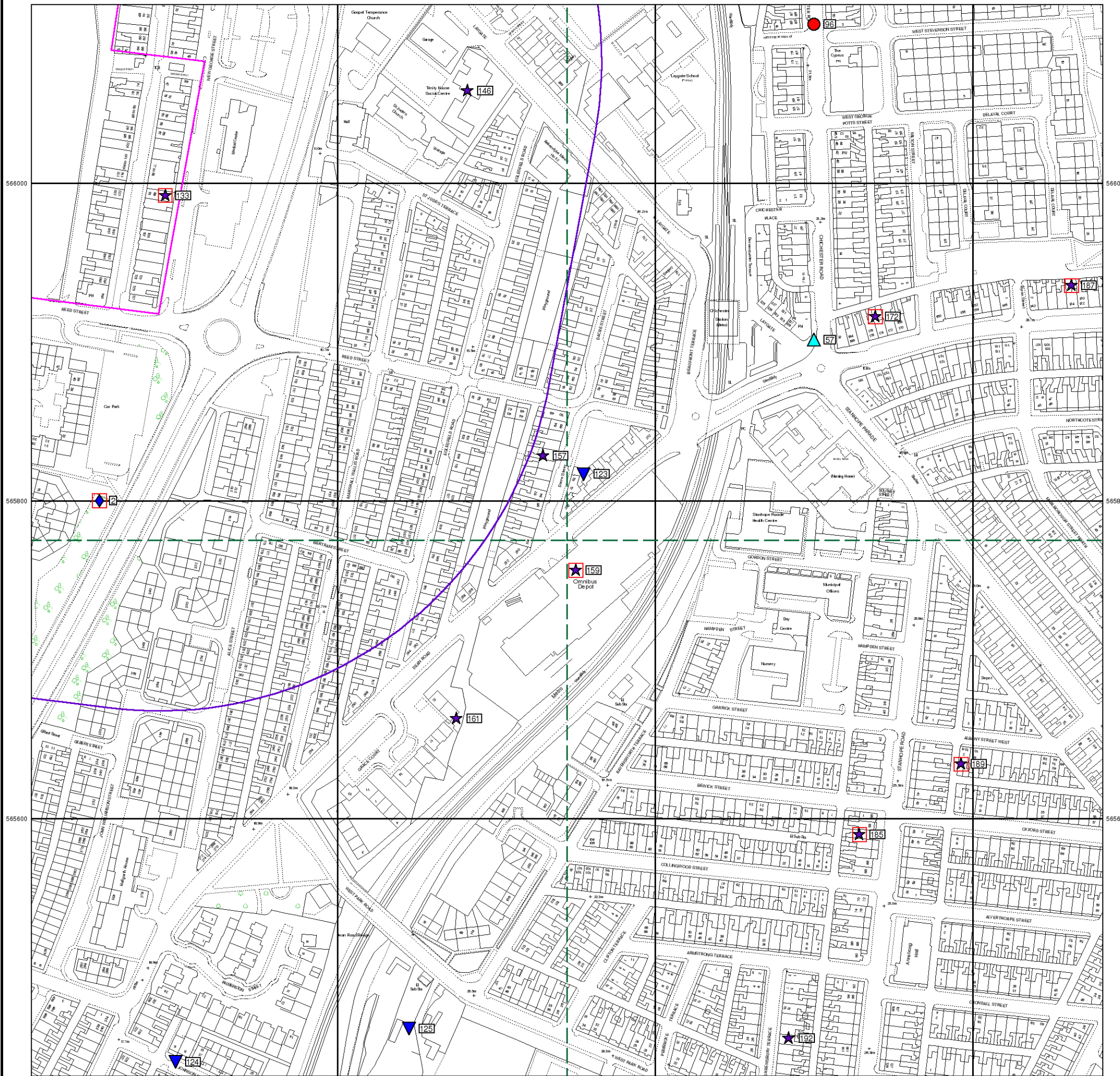


Order Details

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 Site Area (Ha): 5.6
 Plot Buffer (m): 250

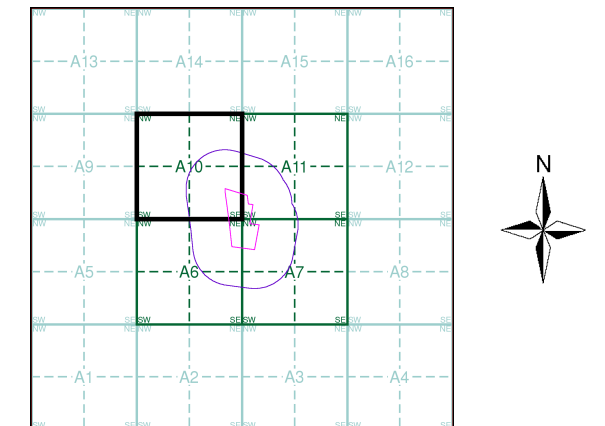
Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
 - Several of Type at Location
 - Pylon
 - Overhead Transmission Line
- Agency and Hydrological**
- Contaminated Land Register Entry or Notice (Location)
 - Contaminated Land Register Entry or Notice
 - Discharge Consent
 - Enforcement or Prohibition Notice
 - Integrated Pollution Control
 - Integrated Pollution Prevention Control
 - Local Authority Integrated Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control Enforcement
 - Pollution Incident to Controlled Waters
 - Prosecution Relating to Authorised Processes
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 - Registered Radioactive Substance
 - River Network or Water Feature
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 - Substantiated Pollution Incident Register
 - Water Abstraction
 - Water Industry Act Referral
- Waste**
- BGS Recorded Landfill Site (Location)
 - BGS Recorded Landfill Site
 - EA Historic Landfill (Buffered Point)
 - EA Historic Landfill (Polygon)
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 - Licensed Waste Management Facility (Landfill Boundary)
 - Licensed Waste Management Facility (Location)
 - Local Authority Recorded Landfill Site (Location)
 - Local Authority Recorded Landfill Site
 - Registered Landfill Site
 - Prosecution Relating to Authorised Processes
 - Registered Landfill Site (Location)
 - Registered Landfill Site (Point Buffered to 100m)
 - Registered Landfill Site (Point Buffered to 250m)
 - Registered Waste Transfer Site (Location)
 - Registered Waste Transfer Site
 - Registered Waste Treatment or Disposal Site (Location)
 - Registered Waste Treatment or Disposal Site
- Hazardous Substances**
- COMAH Site
 - Explosive Site
 - NIHHS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement
- Geological**
- BGS Recorded Mineral Site
- Industrial Land Use**
- Contemporary Trade Directory Entry
 - Fuel Station Entry

Site Sensitivity Map - Segment A10

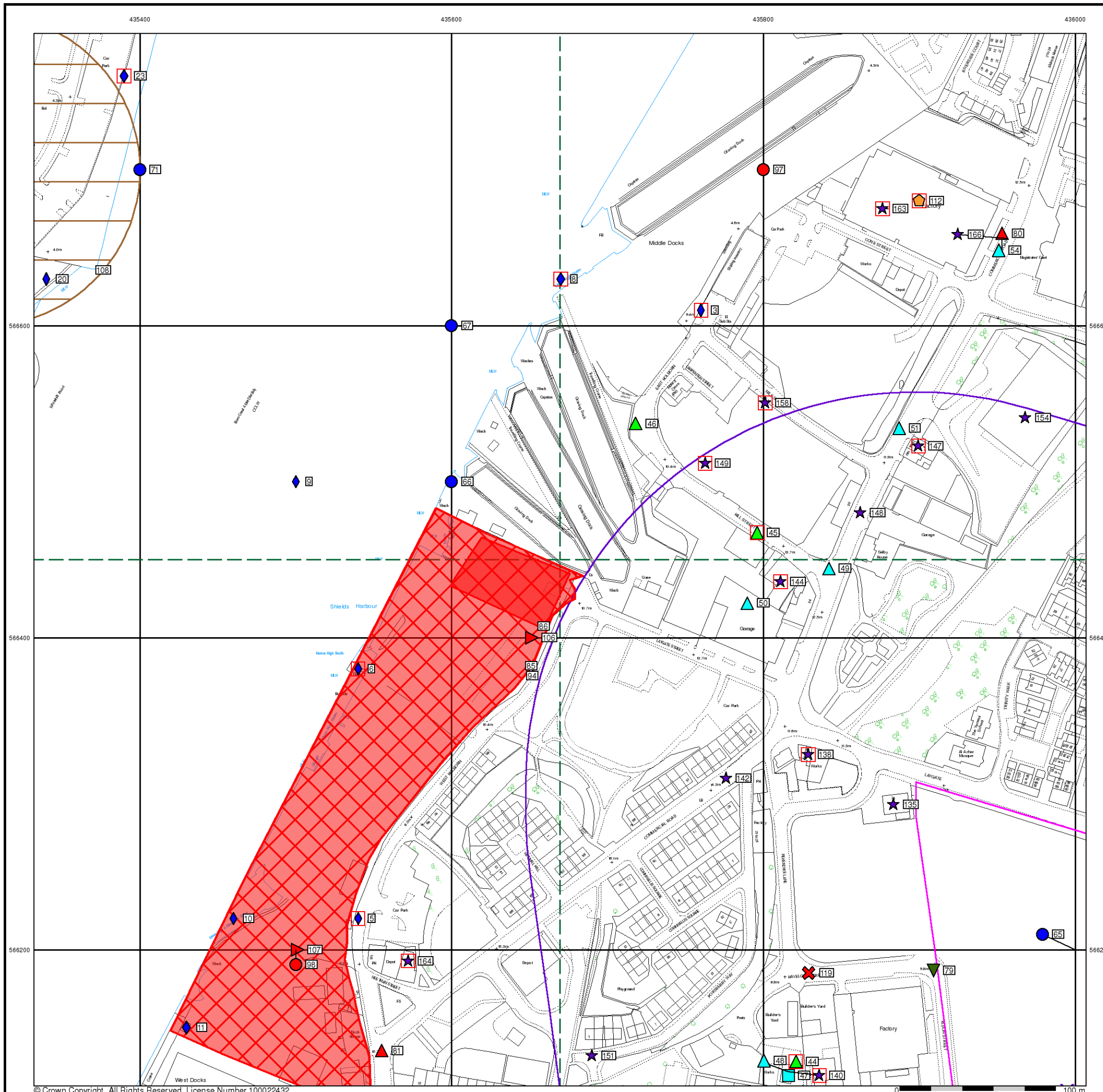


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 Slice: A
 Site Area (Ha): 5.6
 Plot Buffer (m): 250

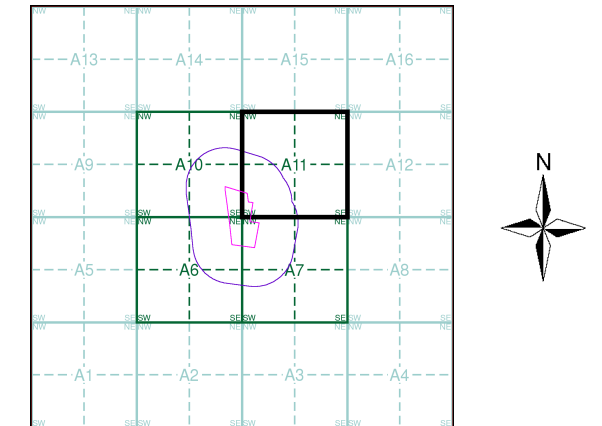
Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
 - Several of Type at Location
 - Pylon
 - Overhead Transmission Line
- Agency and Hydrological**
- Contaminated Land Register Entry or Notice (Location)
 - Contaminated Land Register Entry or Notice
 - Discharge Consent
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 - Integrated Pollution Prevention Control
 - Local Authority Integrated Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control Enforcement
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 - Registered Waste Transfer Site
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 - Registered Waste Treatment or Disposal Site
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 - NIHHS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement
- Geological**
- BGS Recorded Mineral Site
- Industrial Land Use**
- Contemporary Trade Directory Entry
 - Fuel Station Entry

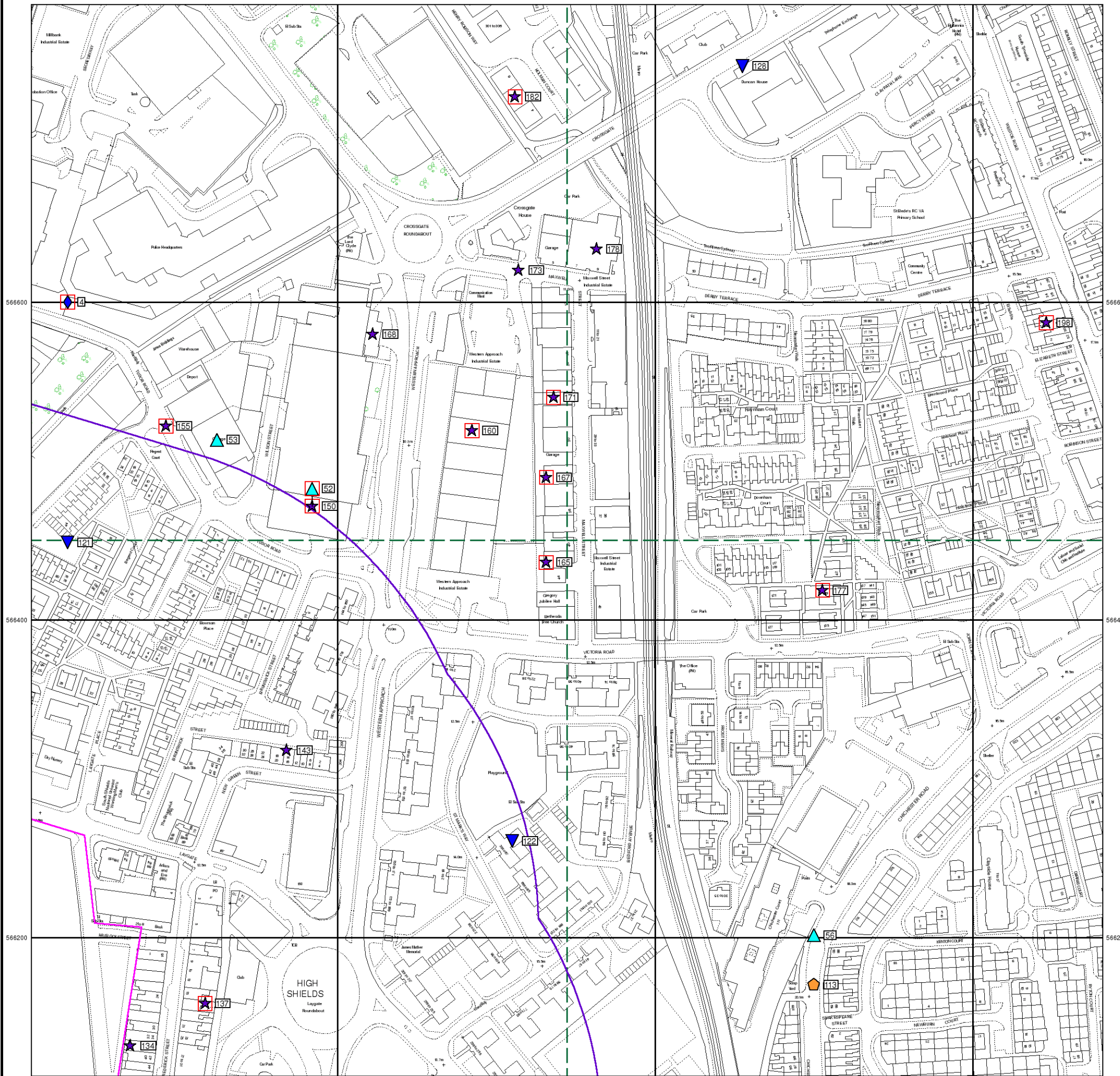
Site Sensitivity Map - Segment A11



Order Details

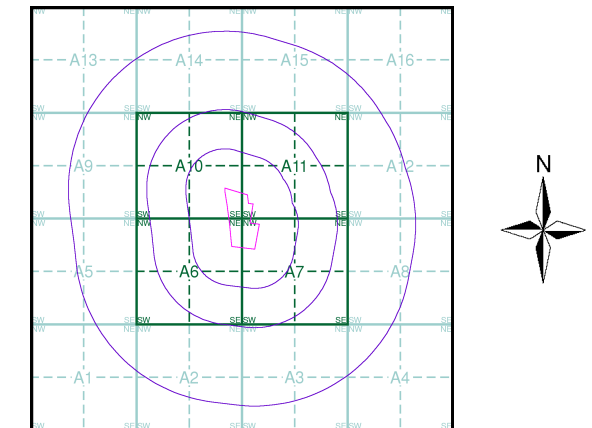
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 Customer Ref: 1004469
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 Slice: A
 Site Area (Ha): 5.6
 Plot Buffer (m): 250

Site Details
 Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
 - Several of Type at Location
- Agency and Hydrological**
- Contaminated Land Register Entry or Notice (Location)
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 - Licensed Waste Management Facility (Location)
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 - Registered Waste Transfer Site
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 - Registered Waste Treatment or Disposal Site
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- COMAH Site
 - Explosive Site
 - NIHHS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement
- Geological**
- BGS Recorded Mineral Site
- Industrial Land Use**
- Contemporary Trade Directory Entry
 - Fuel Station Entry

Site Sensitivity Map - Slice A

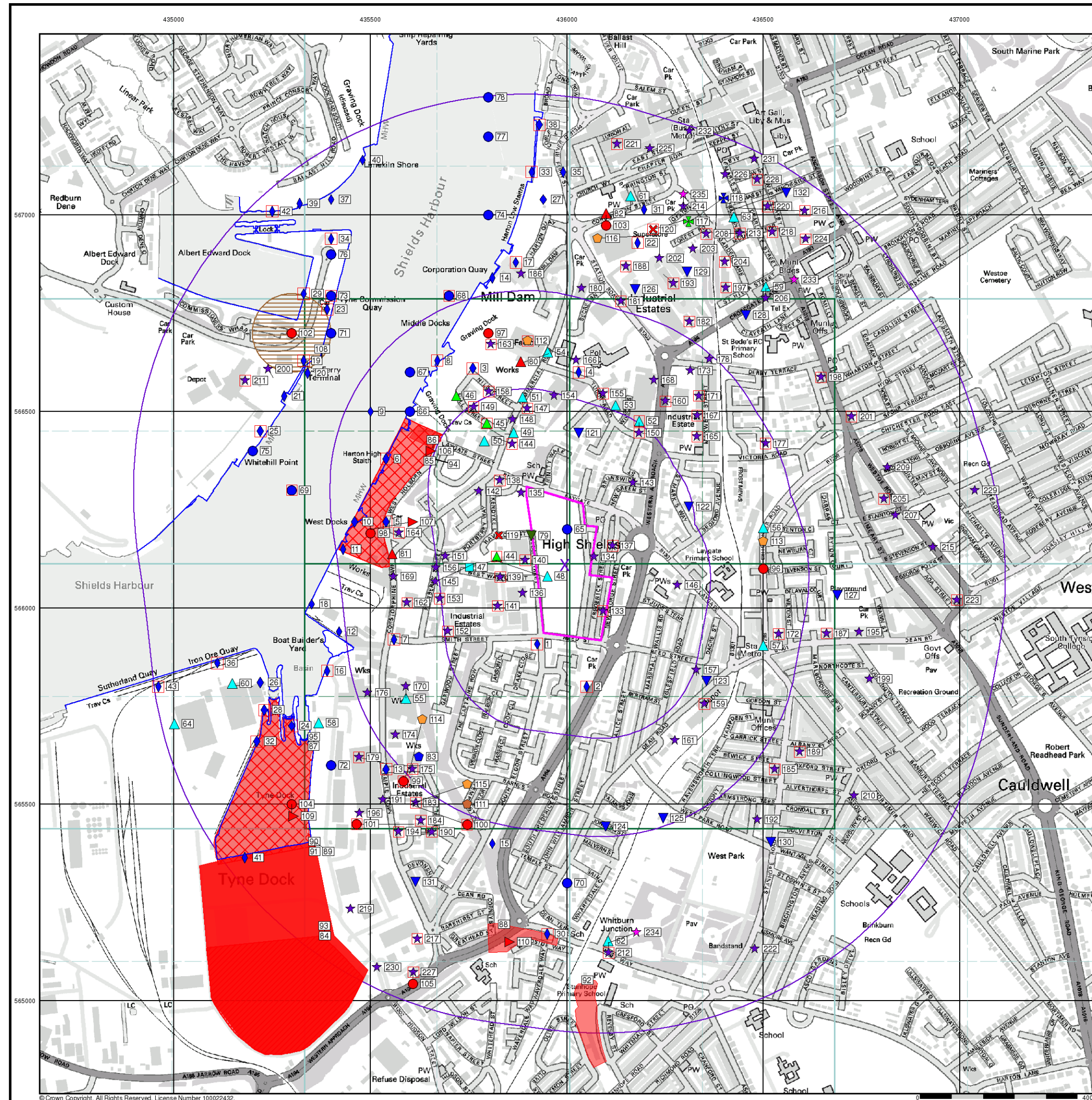


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 Customer Ref: 1004469
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 Search Buffer (m): 1000

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



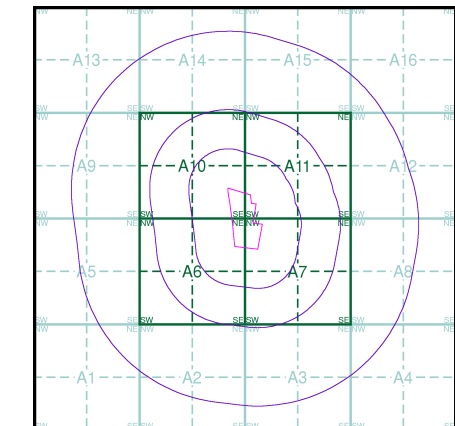
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Agency and Hydrological (Flood)

- Extreme Flooding from Rivers or Sea without Defences (Zone 2)
- Flooding from Rivers or Sea without Defences (Zone 3)
- Area Benefiting from Flood Defence
- Flood Water Storage Areas
- Flood Defence

Flood Map - Slice A

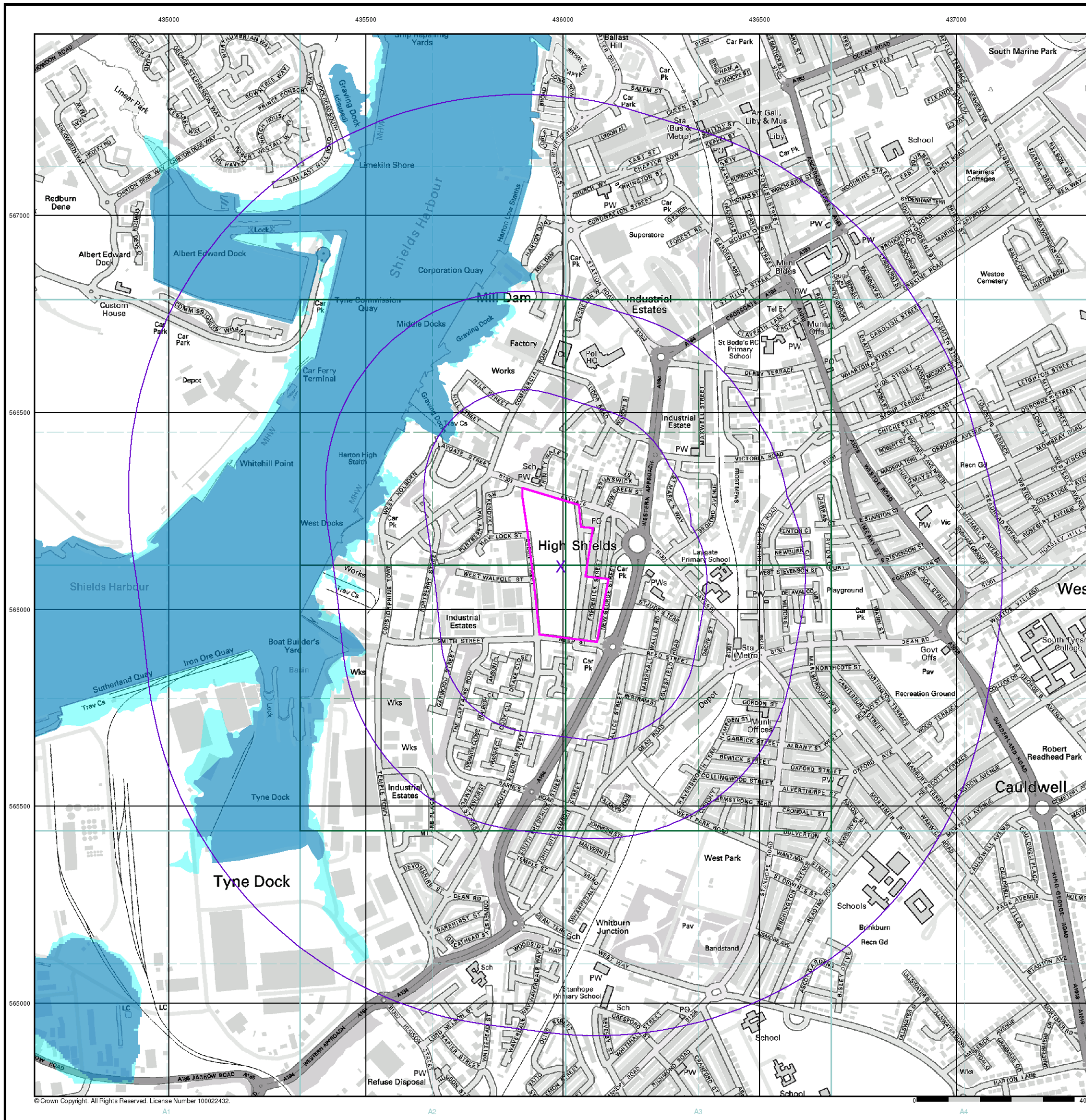


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



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General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location

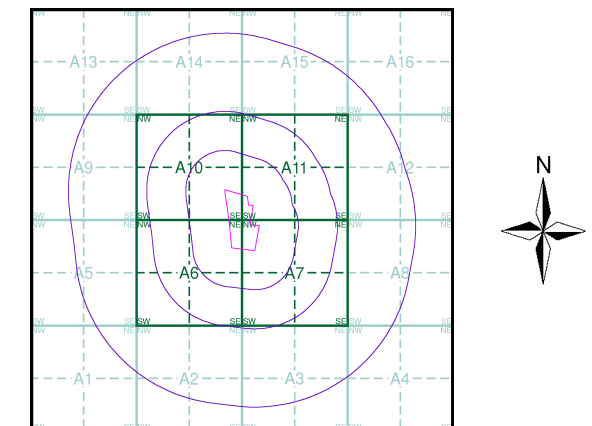
Agency and Hydrological (Boreholes)

- BGS Borehole Depth 0 - 10m
- BGS Borehole Depth 10 - 30m
- BGS Borehole Depth 30m +
- Confidential
- Other

For Borehole information please refer to the Borehole datasheet which accompanied this slice.

A copy of the BGS Borehole Ordering Form is available to download from the Support section of www.envirocheck.co.uk.

Borehole Map - Slice A

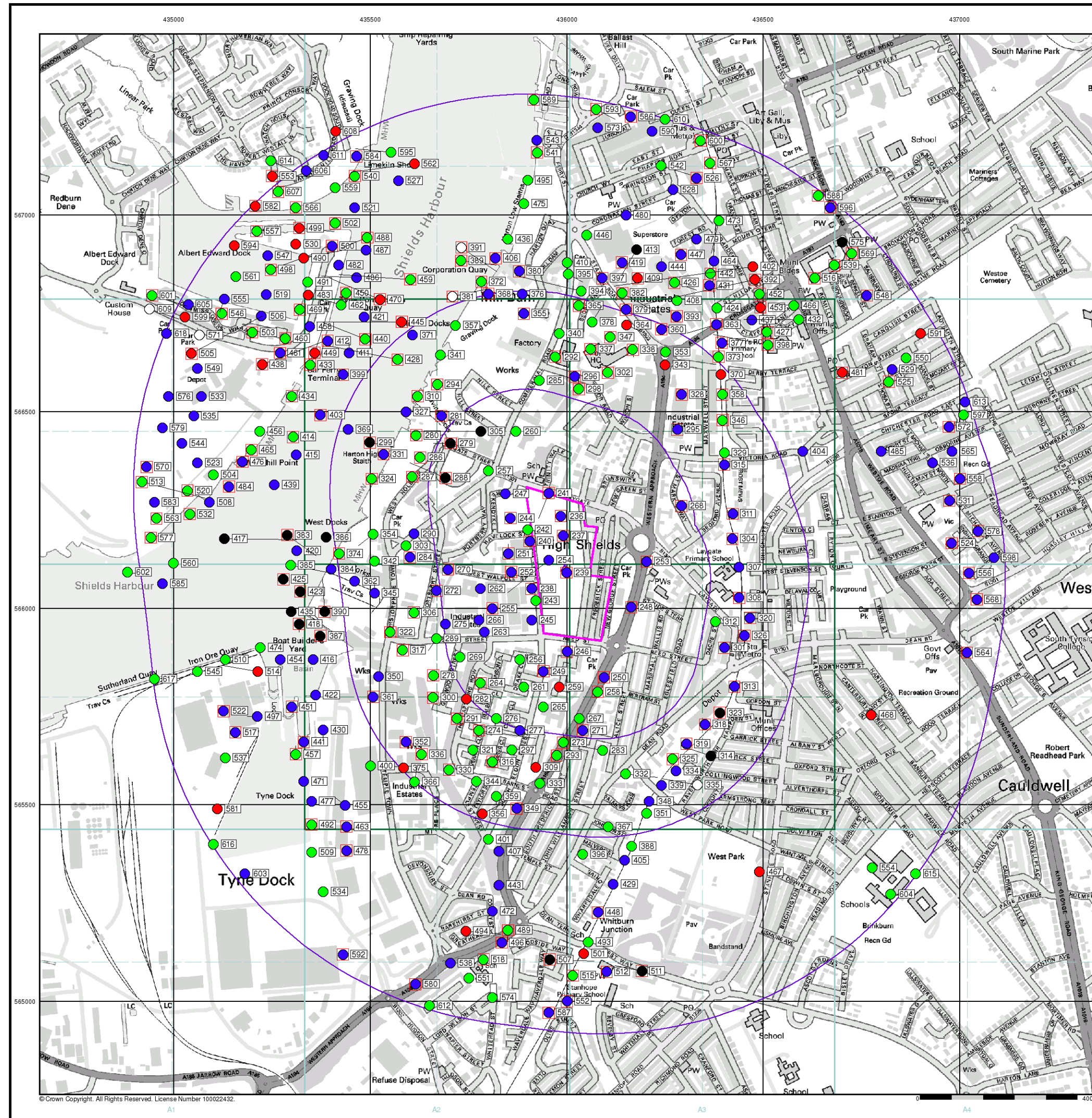


Order Details

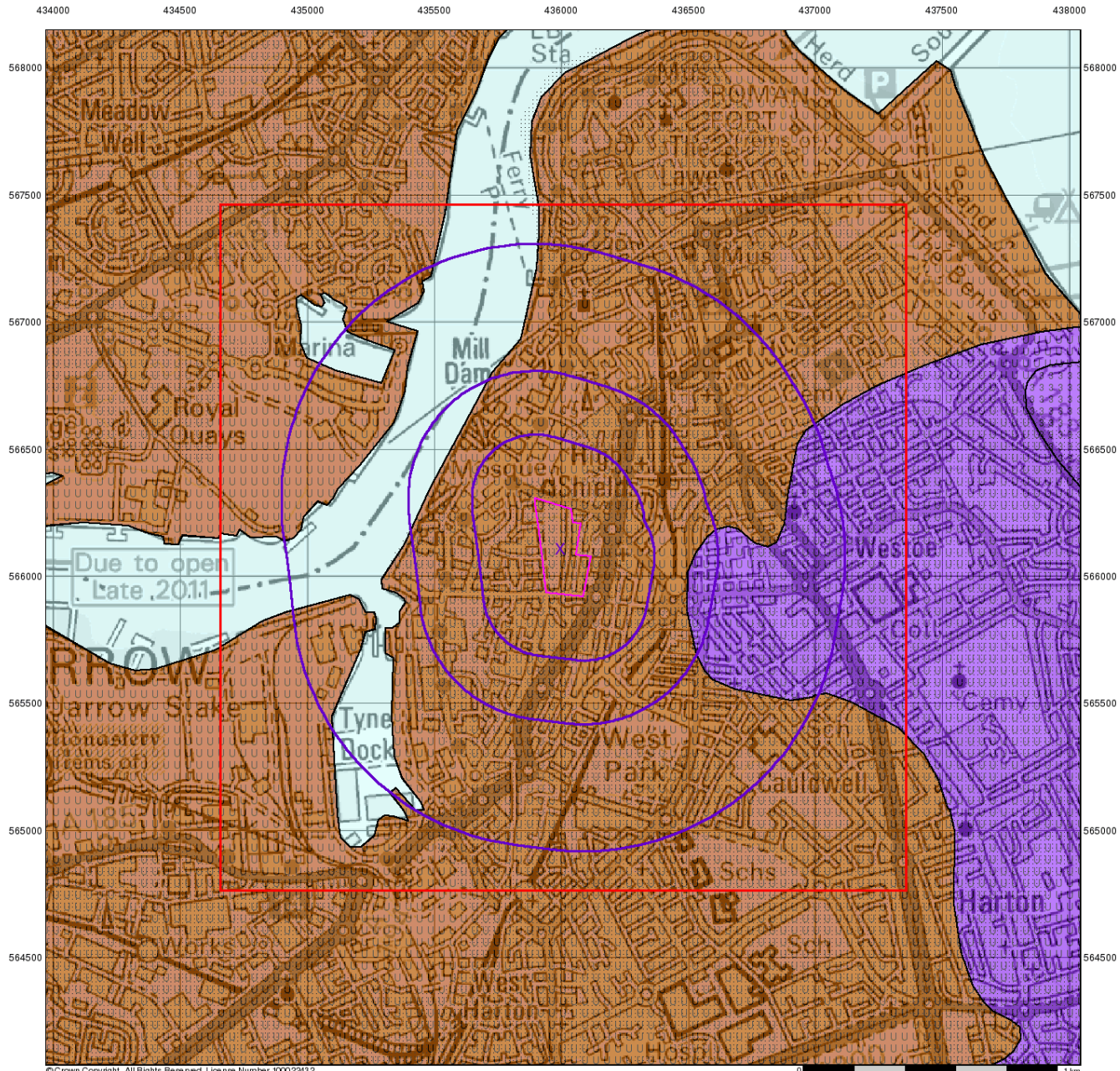
Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



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0 1 km



Groundwater Vulnerability

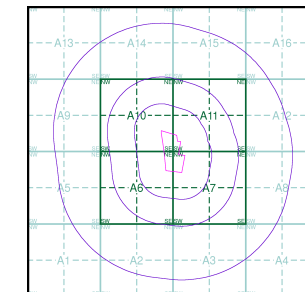
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

- | Geological Classes | Soil Classes |
|---------------------------------------|-----------------------|
| Major Aquifer
(Highly Permeable) | High (H) 1, 2, 3, U |
| | Intermediate (I) 1, 2 |
| | Low |
| Minor Aquifer
(Variably Permeable) | High (H) 1, 2, 3, U |
| | Intermediate (I) 1, 2 |
| | Low |
| Non Aquifer
(Negligibly Permeable) | |
| Water or Sea | |
| Drift Deposit | |

Site Sensitivity Context Map - Slice A



Order Details

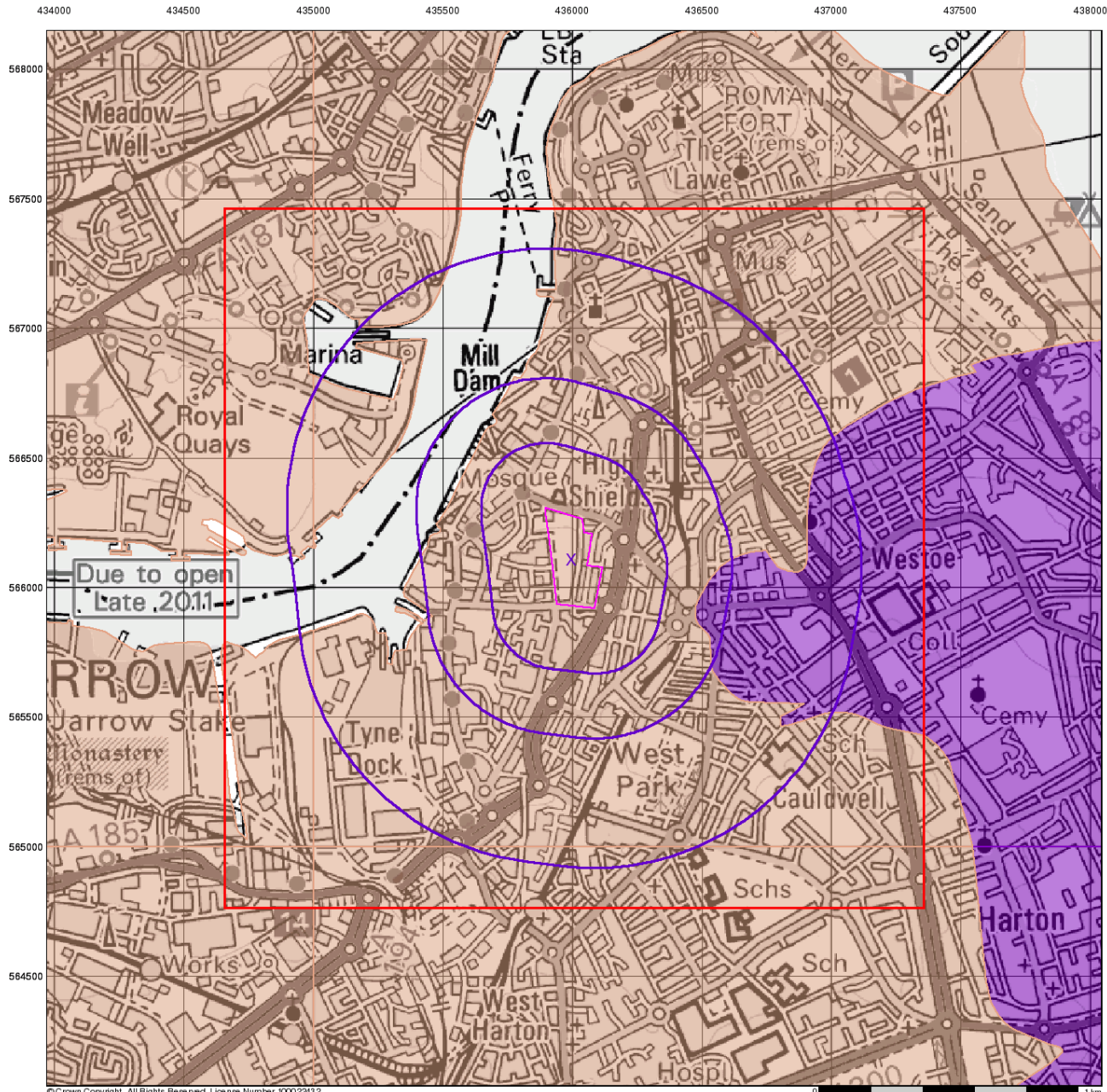
Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

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Bedrock Aquifer Designation

General

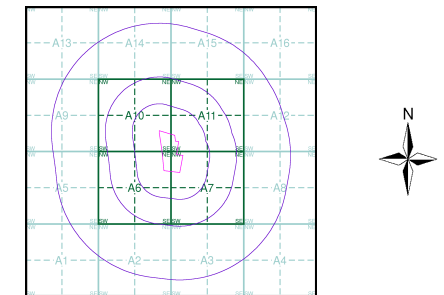
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown

Site Sensitivity Context Map - Slice A



Order Details

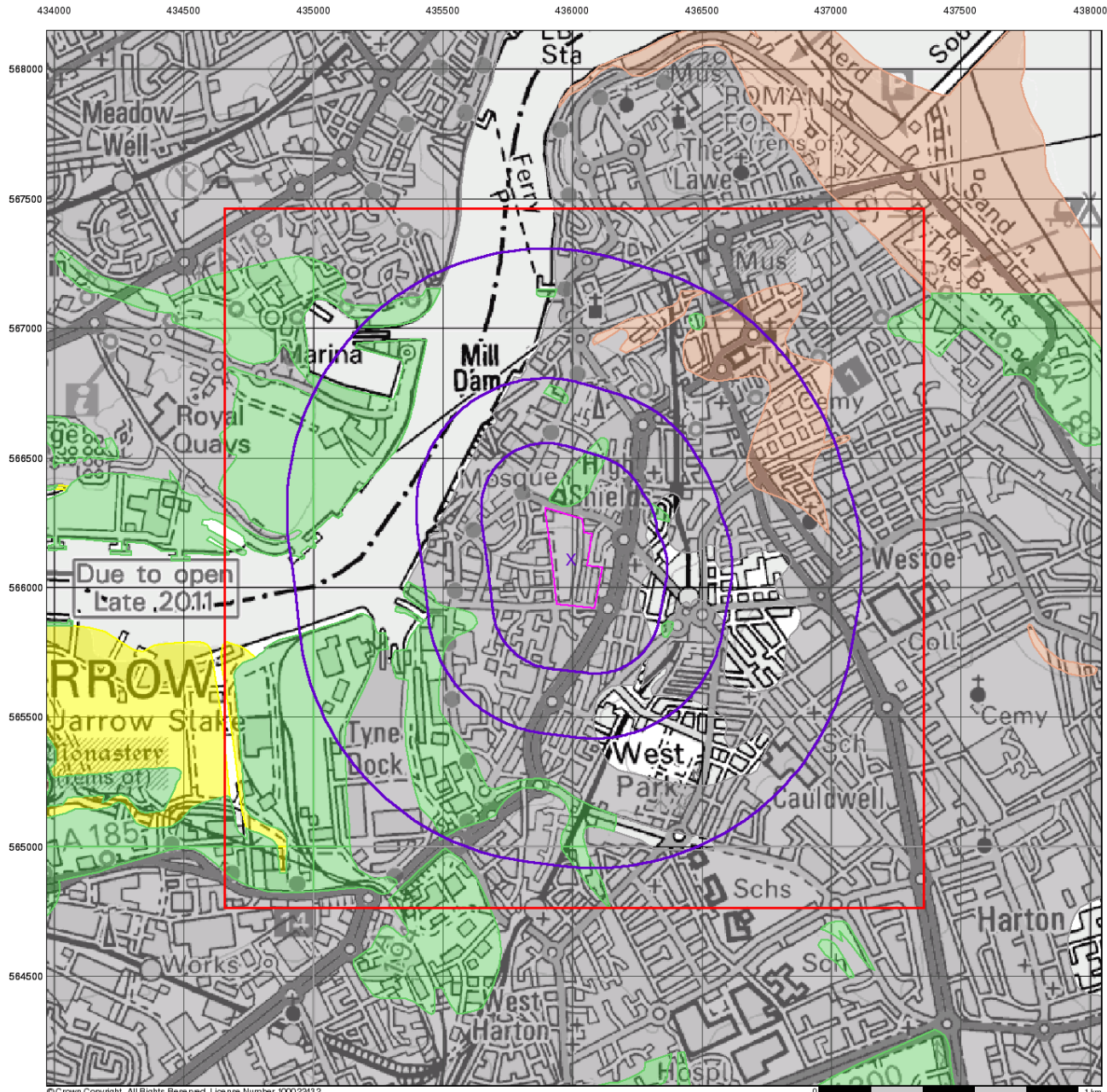
Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

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Superficial Aquifer Designation

General

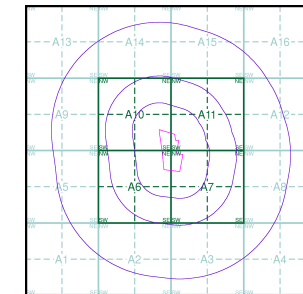
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown

Site Sensitivity Context Map - Slice A



Order Details

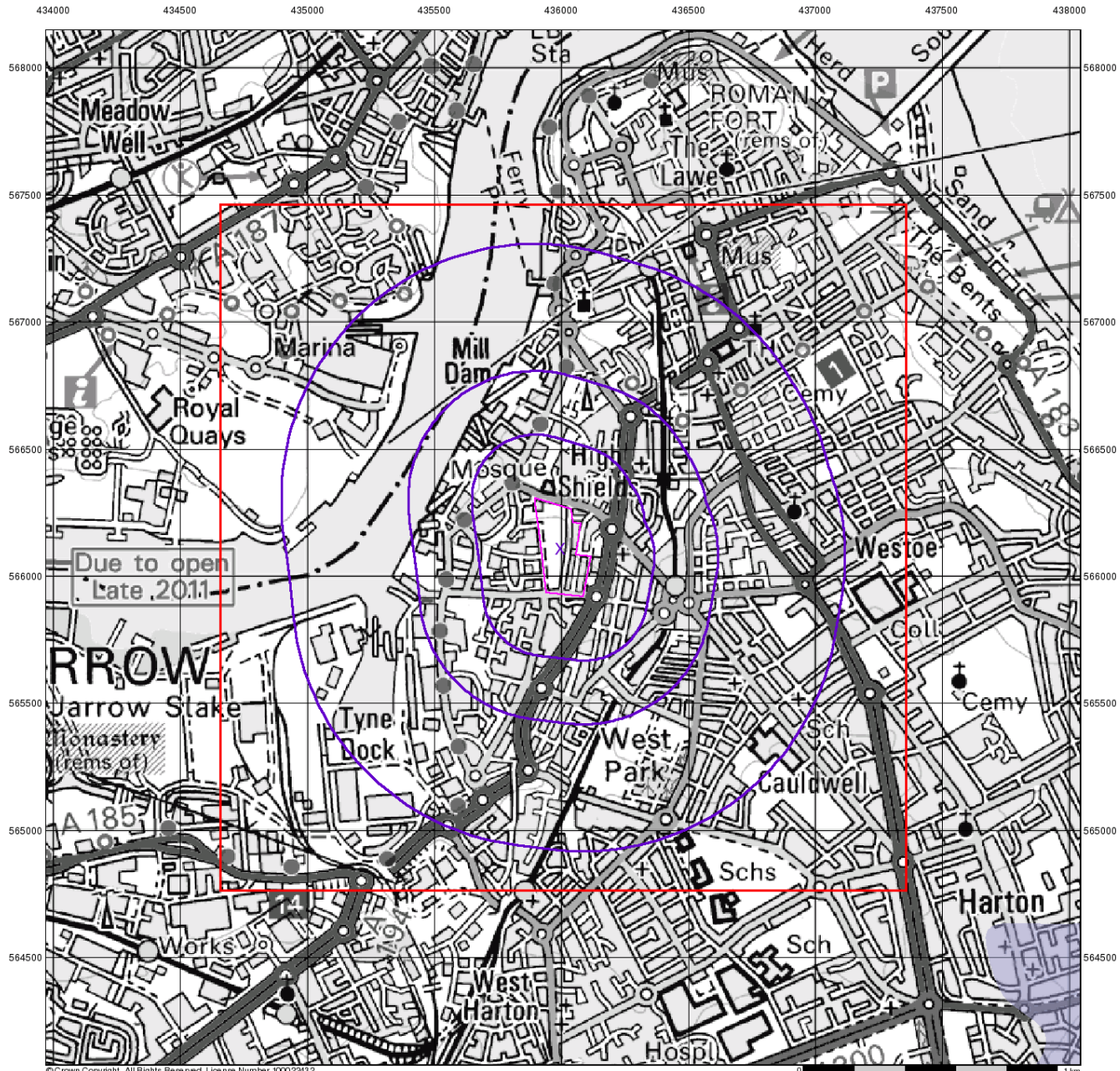
Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

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Source Protection Zones

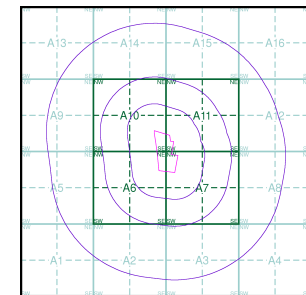
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

- Source Protection Zone I
- Source Protection Zone II
- Source Protection Zone III
- Zone of Special Interest
- Source Protection Zone Borehole

Site Sensitivity Context Map - Slice A



Order Details

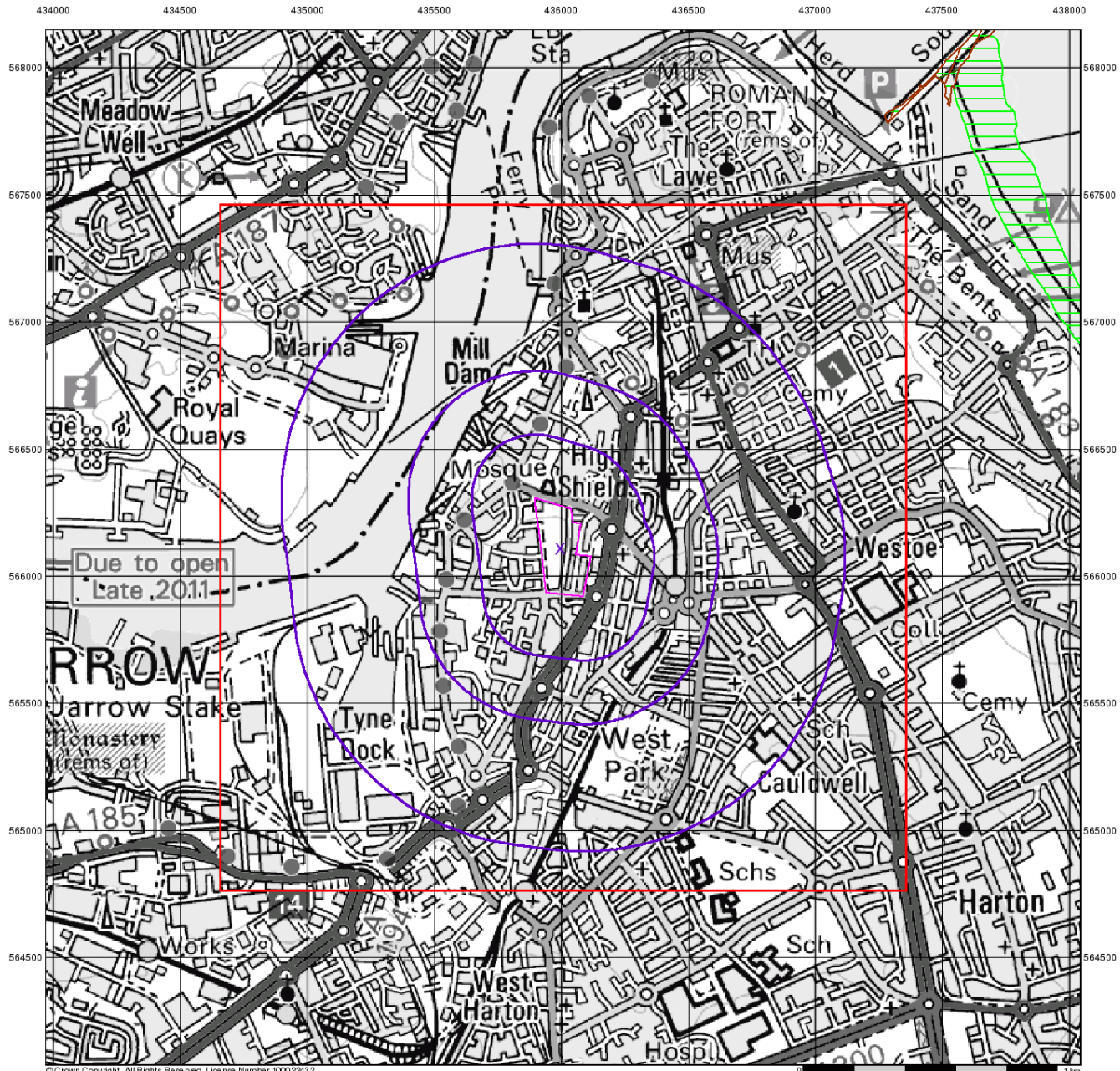
Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

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Sensitive Land Uses

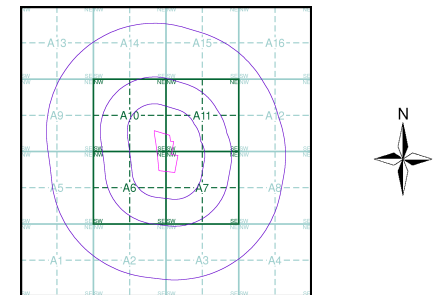
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Sensitive Land Uses

- Area of Adopted Green Belt
- Area of Outstanding Natural Beauty
- Environmentally Sensitive Area
- Forest Park
- Local Nature Reserve
- Marine Nature Reserve
- National Nature Reserve
- National Park
- Nitrate Sensitive Area
- Nitrate Vulnerable Zone
- Ramsar Site
- Site of Special Scientific Interest
- Special Area of Conservation
- Special Protection Area

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

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 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk

Envirocheck[®] Report:

Mining and Ground Stability Datasheet

Order Details:

Order Number:

35564740_1_1

Customer Reference:

1004469

National Grid Reference:

435990, 566110

Slice:

A

Site Area (Ha):

5.6

Search Buffer (m):

1000

Site Details:

Residential Development

Trinity South

SOUTH SHIELDS

Tyne and Wear

Client Details:

Mr M Anderson

Cundall

Horsley House

Regent Centre, Gosforth

Newcastle Upon Tyne

NE3 3LU

Report Section and Details	Page Number
Summary	-
<p>The Summary section provides an overview of the data contained within the report, detailing the number of data set features or the existence of a data set in relation to the buffer selected.</p> <p>For ease of reference, the report is broken down into 4 sections of data; Mining and Natural Cavities Data, Historical Land Use Information (1:2,500), Historical Land Use Information (1:10,000) and Ground Stability Data (1:50,000).</p>	
Mining and Natural Cavities Data	1
<p>The Mining and Natural Cavities Data section features data sets related to the existence of mining areas and their potential hazards; and details of naturally formed cavities.</p> <p>Data sets within this section are not plotted, with the exception of BGS Recorded Mineral Sites and Potential Mining Areas which feature on the Historical Land Use Information (1:10,000) map.</p>	
Historical Land Use Information (1:2,500)	8
<p>The Historical Land Use Information (1:2,500) section contains data captured from analysis carried out by Landmark of 1:1,250 and 1:2,500 scale historical Ordnance Survey mapping, identifying areas where, historically, the land uses were potentially contaminative.</p> <p>For the purpose of this Envirocheck module, only historical data relating to mining and ground stability has been included and plotted on the corresponding Historical Land Use Information (1:2,500) map. This section also includes the Subterranean Features data set, which details various man-made and man-used underground spaces obtained from the Subterranea Britannica society.</p>	
Historical Land Use Information (1:10,000)	12
<p>The Historical Land Use (1:10,000) section covers data captured from the systematic analysis carried out by Landmark of 1:10, 560 and 1:10,000 scale historical Ordnance Survey mapping dating back to the mid-19th century, identifying potentially contaminative past industrial land uses.</p> <p>For the purpose of this Envirocheck module, only data relating to mining and ground stability has been included and plotted on the accompanying Historical Land Use Information (1:10,000) map.</p>	
Ground Stability Data (1:50,000)	15
<p>The Ground Stability (1:50,000) section includes the BGS Geosure data suite, reporting features to 250m and plotted onto 3 separate maps. Also reported is brine subsidence, brine mining and salt mining data sets, of which Brine Pumping and Salt Mining Related Features are plotted, and subsidence insurance claims and insurance investigations data, which is not plotted.</p>	
Motion Map Data (1:2,500)	17
<p>The Motion Map Data (1:2,500) section contains data which is plotted to indicate long-term stability trends from analysis of satellite radar data.</p>	
Historical Map List	41
<p>The Historical Map List section details the historical mapping that has been analysed for your site, in relation to the Historical Land Use Information sections.</p>	
Data Currency	43
Data Suppliers	45
Useful Contacts	46

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The brine subsidence data relating to the Driotwich area as provided in this report is derived from JPB studies and physical monitoring undertaken annually over more than 35 years. For more detailed interpretation contact enquiries@jpb.co.uk. JPB retain the copyright and intellectual rights to this data and accept no liability for any loss or damage, including in direct or consequential loss, arising from the use of this data.

Report Version v47.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m
Mining and Natural Cavities Data					
BGS Recorded Mineral Sites	pg 1		2	3	7
Coal Mining Affected Areas	pg 3	Yes	n/a	n/a	n/a
Man Made Mining Cavities					
Mining Instability	pg 3	Yes	n/a	n/a	n/a
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential Mining Areas	pg 3	5	1	12	9
Historical Land Use Information (1:2,500)					
Extractive Industries or Potential Excavations from 1855-1909	pg 8	3	17	n/a	n/a
Extractive Industries or Potential Excavations from 1893-1915	pg 9		6	n/a	n/a
Extractive Industries or Potential Excavations from 1906-1937	pg 10		4	n/a	n/a
Extractive Industries or Potential Excavations from 1924-1949				n/a	n/a
Extractive Industries or Potential Excavations from 1950-1980	pg 10		9	n/a	n/a
Subterranean Features				n/a	n/a
Historical Land Use Information (1:10,000)					
Air Shafts					
Disturbed Ground					
General Quarrying	pg 12		1	3	3
Heap, unknown constituents	pg 12			3	
Mineral Railway	pg 12		2	5	3
Mining & quarrying general	pg 12				3
Mining of coal & lignite	pg 13			2	1
Quarrying of sand & clay, operation of sand & gravel pits					
Former Marshes					
Potentially Infilled Land (Non-Water)	pg 13		3	6	8
Potentially Infilled Land (Water)	pg 14			1	19

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m
Ground Stability Data (1:50,000)					
Brine Compensation Area			n/a	n/a	n/a
Brine Pumping Related Features					
Brine Subsidence Solution Area					
Potential for Collapsible Ground Stability Hazards				n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 15	Yes	Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 15	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 15	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 16	Yes	Yes	n/a	n/a
Salt Mining Related Features					
Subsidence Insurance Claims				n/a	n/a
Subsidence Investigations				n/a	n/a
Motion Map Data (1:2,500)					
Motion Map	pg 17	46	418	n/a	n/a

Report Version v47.0

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Ballast Hills Brick Field Location: South Shields, South Tyneside Source: British Geological Survey, National Geoscience Information Service Reference: 120996 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Till, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m</p>	A11SW (N)	175	1	436030 566450
2	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Westoe Location: Westoe, South Shields, Tyne And Wear Source: British Geological Survey, National Geoscience Information Service Reference: 95988 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Grindstone Post Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m</p>	A11SW (NE)	241	1	436310 566262
3	<p>BGS Recorded Mineral Sites</p> <p>Site Name: West House Location: South Shields, Tyne And Wear Source: British Geological Survey, National Geoscience Information Service Reference: 95994 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Grindstone Post Member Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m</p>	A7NE (SE)	286	1	436355 565818
4	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Corny Hill Location: South Shields, Tyne And Wear Source: British Geological Survey, National Geoscience Information Service Reference: 95996 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Middle Coal Measures Formation Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m</p>	A7SW (S)	470	1	436098 565448
5	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Corny Hill Location: South Shields, Tyne And Wear Source: British Geological Survey, National Geoscience Information Service Reference: 95995 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Middle Coal Measures Formation Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m</p>	A7SW (S)	476	1	436245 565469
6	<p>BGS Recorded Mineral Sites</p> <p>Site Name: St Hilda'S Colliery Location: South Shields, Tyne And Wear Source: British Geological Survey, National Geoscience Information Service Reference: 128036 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: High Main Coal (Northumberland And Durham) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A15SW (N)	566	1	436173 566815

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Carston Quarry Location: Westoe, South Shields, Tyne And Wear Source: British Geological Survey, National Geoscience Information Service Reference: 95989 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Permian Geology: Raisby Formation (Lower Magnesian Limestone) Commodity: Dolomite Positional Accuracy: Located by supplier to within 10m</p>	A8NW (E)	574	1	436688 566037
8	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Anderson'S Brick Field Location: South Shields, South Tyneside Source: British Geological Survey, National Geoscience Information Service Reference: 120995 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Glaciolacustrine Deposits, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m</p>	A11NE (NE)	639	1	436455 566750
9	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Swinburne'S Brick Field Location: South Shields, South Tyneside Source: British Geological Survey, National Geoscience Information Service Reference: 120994 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Glaciolacustrine Deposits, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m</p>	A15SW (N)	652	1	436305 566860
10	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Westoe Location: Westoe, South Shields, Tyne And Wear Source: British Geological Survey, National Geoscience Information Service Reference: 99018 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Middle Coal Measures Formation Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m</p>	A3NE (SE)	669	1	436519 565408
11	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Jarrow Chemical, Brick &Tile Works Location: South Shields, Tyne And Wear Source: British Geological Survey, National Geoscience Information Service Reference: 95997 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Middle Coal Measures Formation Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m</p>	A2NW (SW)	709	1	435614 565307
12	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Oyston'S Brick Field Location: South Shields, South Tyneside Source: British Geological Survey, National Geoscience Information Service Reference: 120993 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Glaciolacustrine Deposits, Devensian Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m</p>	A15SE (NE)	832	1	436410 567010

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Coal Mining Affected Areas Description: In an area which may be affected by coal mining activity. It is recommended that a coal mining report is obtained from the Coal Authority. Contact details are included in the Useful Contacts section of this report.	A6NE (N)	0	2	435995 566108
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A6NE (N)	0	3	435995 566108
	Non Coal Mining Areas of Great Britain No Hazard				
13	Potential Mining Areas Name: Manor Wallsend Ceased Operation: Not Supplied Commodity: Coal; Bensham Reference: Not Supplied Alternate: Not Supplied Name/Mine: Custodian: G.B. and T.E. Forster, 3 Eldon Square, Newcastle-on-Tyne.	A6NE (N)	0	4	435995 566108
14	Potential Mining Areas Name: Manor Wallsend Ceased Operation: 1818 Commodity: Coal; Bensham; High Main Reference: Not Supplied Alternate: Not Supplied Name/Mine: Custodian: J. and G.H. Geddes, 21 Young Street, Edinburgh.	A6NE (N)	0	4	435995 566108
15	Potential Mining Areas Name: Manor Wallsend Ceased Operation: 1825 Commodity: Coal; Seam unnamed Reference: Not Supplied Alternate: Not Supplied Name/Mine: Custodian: W. Armstrong and Sons, Collingwood Buildings, Collingwood Street, Newcastle-on-Tyne.	A6NE (N)	0	4	435995 566108
16	Potential Mining Areas Name: Manor Wallsend Ceased Operation: 1837 Commodity: Coal; Bensham Reference: Not Supplied Alternate: Not Supplied Name/Mine: Custodian: W. Armstrong and Sons, Collingwood Buildings, Collingwood Street, Newcastle-on-Tyne.	A6NE (N)	0	4	435995 566108
17	Potential Mining Areas Name: Manor Wallsend Ceased Operation: Not Supplied Commodity: Coal; Bensham Reference: 11303 Alternate: Not Supplied Name/Mine: Custodian: Not Supplied	A6NE (N)	0	4	435995 566108
18	Potential Mining Areas Name: Templetown Ceased Operation: Not Supplied Commodity: Coal; Metal Reference: Not Supplied Alternate: Not Supplied Name/Mine: Custodian: Not Supplied	A6NE (S)	71	4	435960 565863
19	Potential Mining Areas Name: Harton Ceased Operation: 1936 Commodity: Coal; Bensham Reference: 11871 Alternate: Not Supplied Name/Mine: Custodian: Not Supplied	A7NE (SE)	280	4	436362 565865

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
20	Potential Mining Areas Name: Percy Main Ceased Operation: 1851 Commodity: Coal; High Main Reference: Not Supplied Alternate: Flatworth Name/Mine: Alternate: Howdon Name/Mine: Custodian: A. Mundle and Son, Dean Street, Newcastle-on-Tyne.	A6NW (W)	343	4	435556 566106
21	Potential Mining Areas Name: Percy Main Ceased Operation: Not Supplied Commodity: Coal; High Main Reference: Not Supplied Alternate: Flatworth Name/Mine: Alternate: Howdon Name/Mine: Alternate: North Shields Name/Mine: Custodian: G.B. and T.E. Forster, 3 Eldon Square, Newcastle-on-Tyne.	A6NW (W)	343	4	435556 566106
22	Potential Mining Areas Name: Percy Main Ceased Operation: 1816 Commodity: Coal; Seam unnamed Reference: Not Supplied Alternate: Howdon Name/Mine: Custodian: Stella Coal Co. Ltd., Hedgefield, Blaydon, Durham.	A10SW (W)	343	4	435555 566263
23	Potential Mining Areas Name: Burdon Main and Percy Main Ceased Operation: 1841 Commodity: Coal; High Main Reference: Not Supplied Alternate: Not Supplied Name/Mine: Custodian: Stella Coal Co. Ltd., Hedgefield, Blaydon, Durham.	A10SW (W)	343	4	435555 566263
24	Potential Mining Areas Name: Wallsend and Hebburn Ceased Operation: Not Supplied Commodity: Coal; High Main Reference: Not Supplied Alternate: Howdon Name/Mine: Alternate: North Shields Name/Mine: Alternate: Percy Name/Mine: Custodian: Wallsend and Hebburn Coal Co. Ltd., Wallsend-on-Tyne.	A6NW (W)	343	4	435556 566106
25	Potential Mining Areas Name: Percy Main Ceased Operation: 1851 Commodity: Coal; High Main; Bensham Reference: Not Supplied Alternate: Flatworth Name/Mine: Alternate: Howdon Name/Mine: Alternate: North Shields Name/Mine: Custodian: W. Armstrong and Sons, Collingwood Buildings, Collingwood Street, Newcastle-on-Tyne.	A6NW (W)	343	4	435556 566106

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
26	<p>Potential Mining Areas</p> <p>Name: Chirton Ceased Operation: 1807 Commodity: Coal; High Main Reference: Not Supplied Alternate Name/Mine: A. Browns Alternate Name/Mine: Chance Alternate Name/Mine: Chirton Alternate Name/Mine: Crowley Alternate Name/Mine: Fortune Alternate Name/Mine: Hope Alternate Name/Mine: Hopewell Alternate Name/Mine: Rose Alternate Name/Mine: Rye Hill Alternate Name/Mine: Stubble Alternate Name/Mine: Success Alternate Name/Mine: Trial Alternate Name/Mine: Tuesday Alternate Name/Mine: Turnpike Custodian: G.B. and T.E. Forster, 3 Eldon Square, Newcastle-on-Tyne.</p>	A10NE (N)	360	4	435956 566667
27	<p>Potential Mining Areas</p> <p>Name: Chirton Ceased Operation: 1828 Commodity: Coal; High Main Reference: 11319 Alternate Name/Mine: A Alternate Name/Mine: Bank Alternate Name/Mine: Brown's Alternate Name/Mine: Chance Alternate Name/Mine: Content Alternate Name/Mine: Crank Alternate Name/Mine: Crowley Alternate Name/Mine: Fogg Field Alternate Name/Mine: Fortune Alternate Name/Mine: Hope Nos. 1, 2, 3 Alternate Name/Mine: Hopewell Alternate Name/Mine: Polly Alternate Name/Mine: Rose Alternate Name/Mine: Ryehill Alternate Name/Mine: Stubble Alternate Name/Mine: Success Alternate Name/Mine: Swallow Alternate Name/Mine: Tuesday Alternate Name/Mine: Turnpike Alternate Name/Mine: Venture Custodian: Not Supplied</p>	A10NE (N)	360	4	435956 566667

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
28	Potential Mining Areas Name: Manor Wallsend Ceased Operation: Not Supplied Commodity: Coal; Harvey Reference: Not Supplied Alternate Chapter Main Name/Mine: Alternate Church Name/Mine: Custodian: Not Supplied	A10NE (N)	365	4	435992 566667
29	Potential Mining Areas Name: Collingwood Main Ceased Operation: 1826 Commodity: Coal; High Main Reference: Not Supplied Alternate Not Supplied Name/Mine: Custodian: Seaton Burn Coal Co. Ltd., Seaton Burn Colliery, Newcastle-on-Tyne.	A10NW (NW)	497	4	435553 566665
30	Potential Mining Areas Name: Chirton Ceased Operation: Not Supplied Commodity: Coal; High Main Reference: Not Supplied Alternate A Name/Mine: Alternate Engine Name/Mine: Custodian: North of England Institute of Mining and Mechanical Engineers, Newcastle-on-Tyne.	A10NW (NW)	497	4	435553 566665
31	Potential Mining Areas Name: Hebburn Ceased Operation: 1813 Commodity: Coal; High Main Reference: Not Supplied Alternate Not Supplied Name/Mine: Custodian: W. Armstrong and Sons, Collingwood Buildings, Newcastle-on-Tyne.	A5NE (W)	745	4	435154 566104
32	Potential Mining Areas Name: Jarrow Ceased Operation: Not Supplied Commodity: Coal; Main Reference: Not Supplied Alternate Not Supplied Name/Mine: Custodian: Wallsend and Hebburn Coal Co. Ltd., Wallsend-on-Tyne.	A5NE (W)	745	4	435154 566104
33	Potential Mining Areas Name: Jarrow or Temple Main Ceased Operation: 1845 Commodity: Coal; High Main; Bensham; Low Main Reference: R359 Alternate Alfred Name/Mine: Custodian: Not Supplied	A5NE (W)	745	4	435154 566104
34	Potential Mining Areas Name: Jarrow Ceased Operation: 1824 Commodity: Coal; High Main Reference: Not Supplied Alternate Not Supplied Name/Mine: Custodian: (i) North of England Institute of Mining and Mechanical Engineers, Newcastle-on-Tyne. (ii) G.B. and T.E. Forster, 3 Eldon Square, Newcastle-on-Tyne.	A5NE (W)	745	4	435154 566104
35	Potential Mining Areas Name: Jarrow Ceased Operation: Not Supplied Commodity: Coal; High Main; Bensham Reference: Not Supplied Alternate Not Supplied Name/Mine: Custodian: W. Armstrong and Sons, Collingwood Buildings, Collingwood Street, Newcastle-on-Tyne.	A5NE (W)	745	4	435154 566104

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
36	Potential Mining Areas Name: Jarrow Ceased Operation: 1828 Commodity: Coal; Main; High Main; Bensham Reference: 11334 Alternate: Alfred Name/Mine: Custodian: Not Supplied	A5NE (W)	745	4	435154 566104
37	Potential Mining Areas Name: Hebburn Ceased Operation: 1813 Commodity: Coal; High Main Reference: Not Supplied Alternate: Not Supplied Name/Mine: Custodian: W. Armstrong and Sons, Collingwood Buildings, Newcastle-on-Tyne.	A5NE (W)	745	4	435154 566104
38	Potential Mining Areas Name: Burdon Ceased Operation: Not Supplied Commodity: Coal; High Main Reference: Not Supplied Alternate: Not Supplied Name/Mine: Custodian: Wallsend and Hebburn Coal Co. Ltd., Wallsend-on-Tyne.	A14SE (N)	762	4	435954 567069
39	Potential Mining Areas Name: Burdon Main Ceased Operation: 1874 Commodity: Coal; Bensham Reference: Not Supplied Alternate: Not Supplied Name/Mine: Custodian: North of England Institute of Mining and Mechanical Engineers, Newcastle-on-Tyne.	A14SE (N)	762	4	435954 567069

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
40	Extractive Industries or Potential Excavations from 1855-1909 Use: Unspecified Deposited Material First Map Published 1858 Date: Last Map Published Not Applicable Date:	A10SE (N)	0	-	435933 566271
41	Extractive Industries or Potential Excavations from 1855-1909 Use: Unspecified Deposited Material First Map Published 1858 Date: Last Map Published Not Applicable Date:	A10SE (NW)	0	-	435947 566218
42	Extractive Industries or Potential Excavations from 1855-1909 Use: Well First Map Published 1858 Date: Last Map Published Not Applicable Date:	A7NW (SE)	0	-	436067 566062
43	Extractive Industries or Potential Excavations from 1855-1909 Use: Unspecified Deposited Material First Map Published 1858 Date: Last Map Published Not Applicable Date:	A10SE (N)	10	-	435964 566298
44	Extractive Industries or Potential Excavations from 1855-1909 Use: Grave Yard First Map Published 1858 Date: Last Map Published Not Applicable Date:	A10SE (NW)	67	-	435840 566345
45	Extractive Industries or Potential Excavations from 1855-1909 Use: W First Map Published 1858 Date: Last Map Published Not Applicable Date:	A6NE (W)	67	-	435859 566077
46	Extractive Industries or Potential Excavations from 1855-1909 Use: W First Map Published 1858 Date: Last Map Published Not Applicable Date:	A10SE (W)	84	-	435835 566126
47	Extractive Industries or Potential Excavations from 1855-1909 Use: W First Map Published 1858 Date: Last Map Published Not Applicable Date:	A6NE (W)	85	-	435837 566108
48	Extractive Industries or Potential Excavations from 1855-1909 Use: Unspecified Deposited Material First Map Published 1858 Date: Last Map Published Not Applicable Date:	A10NE (N)	153	-	435933 566458
49	Extractive Industries or Potential Excavations from 1855-1909 Use: Brick Field First Map Published 1858 Date: Last Map Published Not Applicable Date:	A11SW (N)	155	-	436044 566425
50	Extractive Industries or Potential Excavations from 1855-1909 Use: Unspecified Deposited Material First Map Published 1858 Date: Last Map Published Not Applicable Date:	A10NE (N)	169	-	435910 566477

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
51	Extractive Industries or Potential Excavations from 1855-1909 Use: Railway Embankment First Map Published 1858 Date: Last Map Published Not Applicable Date:	A10SE (W)	193	-	435726 566125
52	Extractive Industries or Potential Excavations from 1855-1909 Use: Clay Pit First Map Published 1858 Date: Last Map Published Not Applicable Date:	A11NW (N)	207	-	436073 566471
53	Extractive Industries or Potential Excavations from 1855-1909 Use: Tunnel First Map Published 1858 Date: Last Map Published Not Applicable Date:	A10SE (NW)	209	-	435684 566238
54	Extractive Industries or Potential Excavations from 1855-1909 Use: Unspecified Deposited Material First Map Published 1858 Date: Last Map Published Not Applicable Date:	A11NW (N)	209	-	436082 566470
55	Extractive Industries or Potential Excavations from 1855-1909 Use: Unspecified Pit First Map Published 1858 Date: Last Map Published Not Applicable Date:	A10NE (N)	213	-	435983 566504
56	Extractive Industries or Potential Excavations from 1855-1909 Use: Quarry First Map Published 1858 Date: Last Map Published Not Applicable Date:	A11SW (NE)	221	-	436290 566260
57	Extractive Industries or Potential Excavations from 1855-1909 Use: Railway Cutting First Map Published 1858 Date: Last Map Published Not Applicable Date:	A7NW (E)	222	-	436341 566024
58	Extractive Industries or Potential Excavations from 1855-1909 Use: Unspecified Deposited Material First Map Published 1858 Date: Last Map Published Not Applicable Date:	A10NE (N)	228	-	435927 566534
59	Extractive Industries or Potential Excavations from 1855-1909 Use: Railway Cutting First Map Published 1858 Date: Last Map Published Not Applicable Date:	A7NW (E)	231	-	436344 566041
60	Extractive Industries or Potential Excavations from 1893-1915 Use: Railway Embankment First Map Published 1897 Date: Last Map Published Not Applicable Date:	A10SE (NW)	30	-	435838 566225
61	Extractive Industries or Potential Excavations from 1893-1915 Use: Brick Works First Map Published 1897 Date: Last Map Published Not Applicable Date:	A6NE (SW)	184	-	435824 565794

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
62	Extractive Industries or Potential Excavations from 1893-1915 Use: Railway Embankment First Map Published 1897 Date: Last Map Published 1897 Date:	A10SE (W)	190	-	435730 566115
63	Extractive Industries or Potential Excavations from 1893-1915 Use: Railway Cutting First Map Published 1897 Date: Last Map Published 1897 Date:	A7NE (E)	228	-	436345 566005
64	Extractive Industries or Potential Excavations from 1893-1915 Use: Unspecified Deposited Material First Map Published 1897 Date: Last Map Published Not Applicable Date:	A10NE (N)	245	-	435997 566533
65	Extractive Industries or Potential Excavations from 1893-1915 Use: Railway Cutting First Map Published 1897 Date: Last Map Published Not Applicable Date:	A7NE (E)	249	-	436364 566100
66	Extractive Industries or Potential Excavations from 1906-1937 Use: Railway Embankment First Map Published 1915 Date: Last Map Published Not Applicable Date:	A10SE (NW)	32	-	435836 566228
67	Extractive Industries or Potential Excavations from 1906-1937 Use: Unspecified Deposited Material First Map Published 1915 Date: Last Map Published Not Applicable Date:	A10SE (NW)	131	-	435801 566395
68	Extractive Industries or Potential Excavations from 1906-1937 Use: Railway Embankment First Map Published 1915 Date: Last Map Published 1916 Date:	A10SE (W)	189	-	435730 566123
69	Extractive Industries or Potential Excavations from 1906-1937 Use: Unspecified Deposited Material First Map Published 1915 Date: Last Map Published Not Applicable Date:	A10NE (N)	236	-	435990 566526
70	Extractive Industries or Potential Excavations from 1950-1980 Use: Railway Embankment First Map Published 1956 Date: Last Map Published 1956 Date:	A10SE (NW)	38	-	435841 566225
71	Extractive Industries or Potential Excavations from 1950-1980 Use: Railway Embankment First Map Published 1956 Date: Last Map Published 1956 Date:	A10SE (W)	184	-	435735 566124
72	Extractive Industries or Potential Excavations from 1950-1980 Use: Graving Dock First Map Published 1956 Date: Last Map Published 1956 Date:	A10SE (NW)	225	-	435712 566434

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
73	Extractive Industries or Potential Excavations from 1950-1980 Use: Unspecified Industrial Water Feature First Map Published 1956 Date: Last Map Published 1956 Date:	A10SE (NW)	227	-	435711 566436
74	Extractive Industries or Potential Excavations from 1950-1980 Use: Unspecified Deposited Material First Map Published 1956 Date: Last Map Published 1956 Date:	A10NE (N)	236	-	435995 566524
75	Extractive Industries or Potential Excavations from 1950-1980 Use: Graving Dock First Map Published 1956 Date: Last Map Published 1956 Date:	A10NE (NW)	237	-	435718 566461
76	Extractive Industries or Potential Excavations from 1950-1980 Use: Unspecified Industrial Water Feature First Map Published 1956 Date: Last Map Published 1956 Date:	A10NE (NW)	238	-	435717 566462
77	Extractive Industries or Potential Excavations from 1950-1980 Use: Graving Dock First Map Published 1956 Date: Last Map Published 1956 Date:	A10SE (NW)	249	-	435688 566442
78	Extractive Industries or Potential Excavations from 1950-1980 Use: Unspecified Industrial Water Feature First Map Published 1956 Date: Last Map Published 1956 Date:	A10SE (NW)	250	-	435688 566443

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
79	General Quarrying Use: Not Supplied Date of Mapping: 1862	A11SW (NE)	222	-	436294 566246
80	General Quarrying Use: Not Supplied Date of Mapping: 1862	A7NE (SE)	292	-	436362 565821
81	General Quarrying Use: Not Supplied Date of Mapping: 1862	A7SW (S)	431	-	436221 565508
82	General Quarrying Use: Not Supplied Date of Mapping: 1862	A7SW (S)	443	-	436099 565475
83	General Quarrying Use: Not Supplied Date of Mapping: 1862	A8NW (E)	576	-	436692 566079
84	General Quarrying Use: Not Supplied Date of Mapping: 1898	A3NE (SE)	672	-	436516 565401
85	General Quarrying Use: Not Supplied Date of Mapping: 1899	A2SE (S)	915	-	435992 565009
86	Heap, unknown constituents Use: Not Supplied Date of Mapping: 1862	A10NE (N)	268	-	435835 566567
87	Heap, unknown constituents Use: Not Supplied Date of Mapping: 1862	A6NW (W)	318	-	435601 566109
88	Heap, unknown constituents Use: Not Supplied Date of Mapping: 1862	A11NW (N)	414	-	436152 566663
89	Mineral Railway Use: Not Supplied Date of Mapping: 1862 - 1952	A10SE (W)	205	-	435713 566125
90	Mineral Railway Use: Not Supplied Date of Mapping: 1862 - 1952	A10SE (W)	209	-	435676 566181
91	Mineral Railway Use: Not Supplied Date of Mapping: 1898 - 1952	A11SE (E)	326	-	436441 566126
92	Mineral Railway Use: Not Supplied Date of Mapping: 1898 - 1993	A11SE (E)	334	-	436439 566161
93	Mineral Railway Use: Not Supplied Date of Mapping: 1898 - 1993	A11SE (E)	335	-	436444 566142
94	Mineral Railway Use: Not Supplied Date of Mapping: 1898 - 1951	A7NE (SE)	344	-	436432 565856
95	Mineral Railway Use: Not Supplied Date of Mapping: 1921 - 1951	A7SW (S)	488	-	436198 565443
96	Mineral Railway Use: Not Supplied Date of Mapping: 1862 - 1993	A11NE (NE)	519	-	436385 566652
97	Mineral Railway Use: Not Supplied Date of Mapping: 1993	A11NE (NE)	543	-	436351 566709
98	Mineral Railway Use: Not Supplied Date of Mapping: 1865 - 1951	A9NE (NW)	823	-	435121 566579
99	Mining & quarrying general Use: Not Supplied Date of Mapping: 1865	A10NW (NW)	577	-	435364 566526

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
100	Mining & quarrying general Use: Not Supplied Date of Mapping: 1993	A15SW (N)	578	-	436190 566822
101	Mining & quarrying general Use: Not Supplied Date of Mapping: 1862	A3SW (S)	819	-	436120 565100
102	Mining of coal & lignite Use: Not Supplied Date of Mapping: 1862 - 1898	A6NW (SW)	365	-	435602 565803
103	Mining of coal & lignite Use: Not Supplied Date of Mapping: 1862 - 1952	A11NW (NE)	436	-	436237 566653
104	Mining of coal & lignite Use: Not Supplied Date of Mapping: 1865 - 1899	A14SW (NW)	961	-	435386 567121
105	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A11SW (N)	144	-	436077 566403
106	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A6NE (SW)	173	-	435829 565804
107	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A11SW (NE)	222	-	436294 566246
108	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A7NE (SE)	292	-	436362 565821
109	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A6NW (SW)	365	-	435602 565803
110	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A7SW (S)	431	-	436221 565508
111	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A11NW (NE)	441	-	436226 566664
112	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A7SW (S)	443	-	436099 565475
113	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A6SE (SW)	469	-	435681 565546
114	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A11NE (NE)	563	-	436406 566692
115	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A8NW (E)	576	-	436692 566079
116	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A3NE (SE)	672	-	436516 565401
117	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A15SE (NE)	758	-	436419 566920
118	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A9SE (W)	761	-	435139 566362
119	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A3SW (S)	819	-	436120 565100
120	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1987	A2SE (S)	915	-	435992 565009

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
121	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A14SW (NW)	961	-	435386 567121
122	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1862	A11NW (NE)	376	-	436296 566539
123	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1862	A6NW (SW)	515	-	435432 565858
124	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1862	A3NW (S)	527	-	436061 565392
125	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1898	A11NE (NE)	613	-	436521 566644
126	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1862	A11NE (NE)	660	-	436632 566561
127	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1898	A2NE (S)	715	-	435888 565222
128	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1862	A3NW (S)	719	-	436310 565234
129	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1862	A3NW (S)	721	-	436285 565225
130	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1898	A2NE (S)	729	-	435782 565225
131	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1898	A2NE (S)	801	-	435973 565125
132	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1898	A3NW (S)	810	-	436054 565109
133	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1862	A3NW (S)	816	-	436075 565102
134	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1862	A2NW (S)	827	-	435646 565164
135	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1921	A3SW (S)	868	-	436240 565063
136	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1952	A4NW (SE)	873	-	436713 565311
137	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1952	A3NE (SE)	926	-	436612 565155
138	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1862	A3SE (S)	930	-	436350 565026
139	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1952	A3NE (SE)	955	-	436589 565105
140	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1898	A3SE (SE)	980	-	436456 565010
141	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1952	A3SE (SE)	984	-	436603 565080

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Brine Compensation Area The site does not fall within the brine compensation area.				
	Brine Subsidence Solution Area The site does not fall within the brine subsidence solution area.				
	Potential for Collapsible Ground Stability Hazards No Hazard				
142	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A6NE (N)	0	1	435995 566108
143	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A10SE (N)	18	1	435995 566325
144	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A10SE (N)	68	1	435900 566375
145	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A10SE (NW)	73	1	435825 566225
146	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A10NE (N)	174	1	435850 566475
147	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A10NE (N)	200	1	435995 566500
148	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SW (NE)	234	1	436300 566275
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A11SW (NE)	15	1	436100 566200
	Potential for Ground Dissolution Stability Hazards No Hazard				
149	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A6NE (N)	0	1	435995 566108
150	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A10SE (W)	137	1	435775 566150
151	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A10SE (NW)	206	1	435725 566425
152	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A10SE (NW)	224	1	435675 566325
153	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SW (NE)	15	1	436100 566200
154	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A10SE (N)	68	1	435900 566375
155	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A10SE (NW)	73	1	435825 566225
156	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A7NW (SE)	159	1	436250 565925
157	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A10NE (N)	174	1	435850 566475
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A6NE (N)	0	1	435995 566108

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
158	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A6NE (N)	0	1	435995 566108
159	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A11SW (NE)	15	1	436100 566200
160	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A7NW (SE)	159	1	436250 565925
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A10SE (N)	104	1	435995 566400
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A7NW (SE)	146	1	436250 566000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
161	Motion Map Average Velocity -1.5 Gradient (mmyear):	A7NW (SE)	0	-	436086 566016
161	Motion Map Average Velocity -1.6 Gradient (mmyear):	A7NW (SE)	0	-	436088 566023
162	Motion Map Average Velocity -1.9 Gradient (mmyear):	A6NE (SW)	0	-	435956 566045
163	Motion Map Average Velocity -2.6 Gradient (mmyear):	A7NW (SE)	0	-	436063 566013
163	Motion Map Average Velocity -3.1 Gradient (mmyear):	A7NW (SE)	0	-	436062 566013
164	Motion Map Average Velocity -1.4 Gradient (mmyear):	A6NE (SW)	0	-	435937 566042
165	Motion Map Average Velocity 0.4 Gradient (mmyear):	A11SW (N)	0	-	436012 566171
166	Motion Map Average Velocity -1.2 Gradient (mmyear):	A7NW (SE)	0	-	436038 566031
167	Motion Map Average Velocity -2.0 Gradient (mmyear):	A6NE (S)	0	-	435975 566045
168	Motion Map Average Velocity -3.1 Gradient (mmyear):	A7NW (SE)	0	-	436085 565983
169	Motion Map Average Velocity -2.2 Gradient (mmyear):	A7NW (SE)	0	-	436057 565986
169	Motion Map Average Velocity -2.2 Gradient (mmyear):	A7NW (SE)	0	-	436053 565987
169	Motion Map Average Velocity -2.7 Gradient (mmyear):	A7NW (SE)	0	-	436060 565993
169	Motion Map Average Velocity -2.5 Gradient (mmyear):	A7NW (SE)	0	-	436056 565982
169	Motion Map Average Velocity -2.3 Gradient (mmyear):	A7NW (SE)	0	-	436053 565983
170	Motion Map Average Velocity -2.5 Gradient (mmyear):	A7NW (SE)	0	-	436057 565974
170	Motion Map Average Velocity -3.0 Gradient (mmyear):	A7NW (SE)	0	-	436056 565970
171	Motion Map Average Velocity -1.3 Gradient (mmyear):	A7NW (S)	0	-	436047 565931
171	Motion Map Average Velocity -1.4 Gradient (mmyear):	A7NW (S)	0	-	436046 565927
172	Motion Map Average Velocity -0.5 Gradient (mmyear):	A6NE (SW)	0	-	435985 566092

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
173	Motion Map Average Velocity -2.7 Gradient (mmyear):	A6NE (W)	0	-	435956 566098
174	Motion Map Average Velocity -1.3 Gradient (mmyear):	A7NW (SE)	0	-	436075 565937
174	Motion Map Average Velocity -1.4 Gradient (mmyear):	A7NW (SE)	0	-	436074 565933
175	Motion Map Average Velocity -0.7 Gradient (mmyear):	A6NE (SW)	0	-	435939 566004
176	Motion Map Average Velocity -3.2 Gradient (mmyear):	A7NW (SE)	0	-	436054 565999
176	Motion Map Average Velocity -2.7 Gradient (mmyear):	A7NW (SE)	0	-	436057 566002
177	Motion Map Average Velocity -1.8 Gradient (mmyear):	A10SE (NW)	0	-	435950 566136
177	Motion Map Average Velocity -2.1 Gradient (mmyear):	A10SE (NW)	0	-	435949 566133
178	Motion Map Average Velocity 1.0 Gradient (mmyear):	A10SE (NW)	0	-	435968 566128
179	Motion Map Average Velocity -0.7 Gradient (mmyear):	A6NE (SW)	0	-	435953 566087
180	Motion Map Average Velocity -0.6 Gradient (mmyear):	A7NW (SE)	0	-	436072 566056
180	Motion Map Average Velocity -1.2 Gradient (mmyear):	A7NW (SE)	0	-	436070 566052
181	Motion Map Average Velocity -1.4 Gradient (mmyear):	A6NE (S)	0	-	435972 565977
182	Motion Map Average Velocity -1.6 Gradient (mmyear):	A7NW (S)	0	-	436052 565938
183	Motion Map Average Velocity -2.1 Gradient (mmyear):	A7NW (S)	0	-	436022 565945
183	Motion Map Average Velocity -1.5 Gradient (mmyear):	A7NW (S)	0	-	436020 565945
184	Motion Map Average Velocity -1.7 Gradient (mmyear):	A7NW (SE)	0	-	436074 565929
185	Motion Map Average Velocity -1.9 Gradient (mmyear):	A7NW (S)	0	-	436052 565954
185	Motion Map Average Velocity -1.8 Gradient (mmyear):	A7NW (S)	0	-	436049 565955
185	Motion Map Average Velocity -2.3 Gradient (mmyear):	A7NW (S)	0	-	436053 565950

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
185	Motion Map Average Velocity -2.1 Gradient (mmyear):	A7NW (S)	0	-	436050 565951
186	Motion Map Average Velocity -2.0 Gradient (mmyear):	A10SE (N)	0	-	435973 566254
186	Motion Map Average Velocity -1.9 Gradient (mmyear):	A10SE (N)	0	-	435971 566254
186	Motion Map Average Velocity -2.6 Gradient (mmyear):	A10SE (N)	0	-	435970 566250
187	Motion Map Average Velocity -3.2 Gradient (mmyear):	A6NE (SW)	0	-	435958 566025
188	Motion Map Average Velocity -0.7 Gradient (mmyear):	A10SE (NW)	0	-	435943 566195
189	Motion Map Average Velocity -1.4 Gradient (mmyear):	A7NW (E)	7	-	436073 566088
190	Motion Map Average Velocity -1.8 Gradient (mmyear):	A7NW (E)	8	-	436098 566086
191	Motion Map Average Velocity -2.4 Gradient (mmyear):	A11SW (NE)	12	-	436085 566187
192	Motion Map Average Velocity -0.4 Gradient (mmyear):	A6NE (SW)	13	-	435915 566063
192	Motion Map Average Velocity -0.5 Gradient (mmyear):	A6NE (SW)	14	-	435914 566059
193	Motion Map Average Velocity -3.2 Gradient (mmyear):	A10SE (NW)	13	-	435885 566290
193	Motion Map Average Velocity -3.5 Gradient (mmyear):	A10SE (NW)	14	-	435884 566286
193	Motion Map Average Velocity -3.0 Gradient (mmyear):	A10SE (NW)	16	-	435882 566290
193	Motion Map Average Velocity -3.3 Gradient (mmyear):	A10SE (NW)	17	-	435881 566286
194	Motion Map Average Velocity -2.4 Gradient (mmyear):	A11SW (E)	15	-	436079 566127
194	Motion Map Average Velocity -2.6 Gradient (mmyear):	A11SW (E)	20	-	436084 566126
195	Motion Map Average Velocity -3.0 Gradient (mmyear):	A11SW (NE)	15	-	436057 566250
195	Motion Map Average Velocity -2.8 Gradient (mmyear):	A11SW (NE)	16	-	436058 566254
196	Motion Map Average Velocity -2.2 Gradient (mmyear):	A11SW (NE)	15	-	436086 566174

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
197	Motion Map Average Velocity -3.8 Gradient (mmyear):	A10SE (NW)	16	-	435883 566282
197	Motion Map Average Velocity -3.6 Gradient (mmyear):	A10SE (NW)	18	-	435880 566283
198	Motion Map Average Velocity -2.0 Gradient (mmyear):	A7NW (E)	16	-	436076 566104
199	Motion Map Average Velocity 0.1 Gradient (mmyear):	A6NE (SW)	17	-	435919 565985
200	Motion Map Average Velocity 0.5 Gradient (mmyear):	A6NE (S)	17	-	435938 565920
200	Motion Map Average Velocity 0.4 Gradient (mmyear):	A6NE (S)	17	-	435936 565920
200	Motion Map Average Velocity 0.2 Gradient (mmyear):	A6NE (S)	21	-	435937 565916
201	Motion Map Average Velocity -2.1 Gradient (mmyear):	A7NW (E)	20	-	436100 566098
202	Motion Map Average Velocity 0.6 Gradient (mmyear):	A10SE (NW)	22	-	435892 566170
203	Motion Map Average Velocity 0.6 Gradient (mmyear):	A10SE (W)	24	-	435895 566137
204	Motion Map Average Velocity -4.2 Gradient (mmyear):	A11SW (N)	34	-	436068 566285
204	Motion Map Average Velocity -3.8 Gradient (mmyear):	A11SW (N)	37	-	436069 566289
205	Motion Map Average Velocity 0.1 Gradient (mmyear):	A6NE (S)	39	-	435987 565892
206	Motion Map Average Velocity -2.1 Gradient (mmyear):	A7NW (SE)	55	-	436145 565930
207	Motion Map Average Velocity 0.6 Gradient (mmyear):	A6NE (SW)	57	-	435876 566015
208	Motion Map Average Velocity -1.2 Gradient (mmyear):	A7NW (SE)	58	-	436133 565883
208	Motion Map Average Velocity -1.3 Gradient (mmyear):	A7NW (SE)	61	-	436136 565883
209	Motion Map Average Velocity -1.6 Gradient (mmyear):	A7NW (SE)	59	-	436131 565879
210	Motion Map Average Velocity 0.0 Gradient (mmyear):	A6NE (SW)	60	-	435877 565970
210	Motion Map Average Velocity 0.0 Gradient (mmyear):	A6NE (SW)	61	-	435877 565966

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
211	Motion Map Average Velocity -0.9 Gradient (mmyear):	A10SE (NW)	63	-	435839 566328
211	Motion Map Average Velocity -1.2 Gradient (mmyear):	A10SE (NW)	63	-	435837 566325
211	Motion Map Average Velocity -1.3 Gradient (mmyear):	A10SE (NW)	63	-	435837 566321
212	Motion Map Average Velocity -2.7 Gradient (mmyear):	A11SW (N)	66	-	436062 566327
213	Motion Map Average Velocity -2.9 Gradient (mmyear):	A7NW (E)	76	-	436191 566069
214	Motion Map Average Velocity -2.1 Gradient (mmyear):	A7NW (E)	77	-	436190 566057
214	Motion Map Average Velocity -2.2 Gradient (mmyear):	A7NW (E)	77	-	436189 566053
215	Motion Map Average Velocity -1.4 Gradient (mmyear):	A11SW (E)	77	-	436146 566153
216	Motion Map Average Velocity 1.0 Gradient (mmyear):	A6NE (S)	81	-	435922 565858
216	Motion Map Average Velocity 1.2 Gradient (mmyear):	A6NE (S)	85	-	435921 565854
217	Motion Map Average Velocity -1.1 Gradient (mmyear):	A7NW (SE)	87	-	436171 565895
217	Motion Map Average Velocity -0.7 Gradient (mmyear):	A7NW (SE)	93	-	436176 565890
218	Motion Map Average Velocity -0.2 Gradient (mmyear):	A7NW (SE)	87	-	436143 565852
218	Motion Map Average Velocity -0.4 Gradient (mmyear):	A7NW (SE)	90	-	436143 565848
218	Motion Map Average Velocity -0.2 Gradient (mmyear):	A7NW (SE)	93	-	436147 565848
219	Motion Map Average Velocity -0.5 Gradient (mmyear):	A10SE (NW)	91	-	435808 566319
220	Motion Map Average Velocity -0.3 Gradient (mmyear):	A7NW (SE)	93	-	436165 565868
220	Motion Map Average Velocity 0.3 Gradient (mmyear):	A7NW (SE)	102	-	436172 565862
220	Motion Map Average Velocity -0.6 Gradient (mmyear):	A7NW (SE)	103	-	436170 565858
221	Motion Map Average Velocity -1.8 Gradient (mmyear):	A7NW (E)	96	-	436206 566034

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
221	Motion Map Average Velocity -1.7 Gradient (mmyear):	A7NW (E)	97	-	436207 566037
221	Motion Map Average Velocity -1.7 Gradient (mmyear):	A7NW (E)	100	-	436210 566037
221	Motion Map Average Velocity -1.8 Gradient (mmyear):	A7NW (E)	100	-	436209 566033
222	Motion Map Average Velocity -1.1 Gradient (mmyear):	A7NW (SE)	97	-	436175 565878
223	Motion Map Average Velocity -0.1 Gradient (mmyear):	A10SE (NW)	99	-	435799 566277
224	Motion Map Average Velocity 0.3 Gradient (mmyear):	A10SE (W)	101	-	435817 566138
225	Motion Map Average Velocity -1.8 Gradient (mmyear):	A11SW (N)	102	-	436017 566377
225	Motion Map Average Velocity -1.7 Gradient (mmyear):	A11SW (N)	106	-	436018 566381
225	Motion Map Average Velocity -1.9 Gradient (mmyear):	A11SW (N)	110	-	436023 566384
225	Motion Map Average Velocity -1.9 Gradient (mmyear):	A11SW (N)	110	-	436020 566385
225	Motion Map Average Velocity -1.7 Gradient (mmyear):	A11SW (N)	110	-	436018 566385
225	Motion Map Average Velocity -1.5 Gradient (mmyear):	A11SW (N)	114	-	436018 566389
226	Motion Map Average Velocity -1.3 Gradient (mmyear):	A6NE (W)	105	-	435824 566055
226	Motion Map Average Velocity -1.2 Gradient (mmyear):	A6NE (W)	109	-	435819 566056
227	Motion Map Average Velocity -0.6 Gradient (mmyear):	A7NW (SE)	105	-	436170 565854
227	Motion Map Average Velocity -0.6 Gradient (mmyear):	A7NW (SE)	108	-	436167 565847
227	Motion Map Average Velocity -0.8 Gradient (mmyear):	A7NW (SE)	110	-	436170 565846
227	Motion Map Average Velocity -1.0 Gradient (mmyear):	A7NW (SE)	110	-	436167 565843
228	Motion Map Average Velocity -2.9 Gradient (mmyear):	A7NW (E)	109	-	436224 566090
229	Motion Map Average Velocity -0.1 Gradient (mmyear):	A7NW (E)	109	-	436224 566090

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
229	Motion Map Average Velocity 0.5 Gradient (mmyear):	A7NW (E)	113	-	436227 566093
230	Motion Map Average Velocity -1.1 Gradient (mmyear):	A7NW (SE)	113	-	436193 565878
231	Motion Map Average Velocity -1.7 Gradient (mmyear):	A11SW (N)	114	-	436024 566388
231	Motion Map Average Velocity -1.6 Gradient (mmyear):	A11SW (N)	114	-	436021 566389
231	Motion Map Average Velocity -1.7 Gradient (mmyear):	A11SW (N)	122	-	436027 566396
231	Motion Map Average Velocity -1.5 Gradient (mmyear):	A11SW (N)	126	-	436027 566400
232	Motion Map Average Velocity 0.4 Gradient (mmyear):	A7NW (SE)	115	-	436134 565814
232	Motion Map Average Velocity 0.3 Gradient (mmyear):	A7NW (SE)	116	-	436136 565813
232	Motion Map Average Velocity 0.1 Gradient (mmyear):	A7NW (SE)	117	-	436132 565810
232	Motion Map Average Velocity 0.4 Gradient (mmyear):	A7NW (SE)	124	-	436138 565805
233	Motion Map Average Velocity -0.8 Gradient (mmyear):	A6NE (W)	115	-	435807 566104
233	Motion Map Average Velocity -1.4 Gradient (mmyear):	A6NE (W)	122	-	435800 566102
233	Motion Map Average Velocity -1.0 Gradient (mmyear):	A6NE (W)	125	-	435798 566102
234	Motion Map Average Velocity -0.5 Gradient (mmyear):	A6NE (SW)	117	-	435867 565846
234	Motion Map Average Velocity -0.7 Gradient (mmyear):	A6NE (SW)	120	-	435868 565842
235	Motion Map Average Velocity 0.9 Gradient (mmyear):	A6NE (S)	120	-	435956 565813
236	Motion Map Average Velocity -0.9 Gradient (mmyear):	A6NE (SW)	121	-	435865 565843
236	Motion Map Average Velocity -0.6 Gradient (mmyear):	A6NE (SW)	124	-	435865 565839
236	Motion Map Average Velocity -0.9 Gradient (mmyear):	A6NE (SW)	125	-	435862 565839
236	Motion Map Average Velocity -0.8 Gradient (mmyear):	A6NE (SW)	128	-	435863 565835

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
236	Motion Map Average Velocity -0.8 Gradient (mmyear):	A6NE (SW)	130	-	435860 565835
236	Motion Map Average Velocity -1.0 Gradient (mmyear):	A6NE (SW)	132	-	435862 565831
237	Motion Map Average Velocity -0.4 Gradient (mmyear):	A6NE (SW)	123	-	435841 565864
237	Motion Map Average Velocity -0.6 Gradient (mmyear):	A6NE (SW)	126	-	435841 565860
238	Motion Map Average Velocity 0.6 Gradient (mmyear):	A7NW (SE)	123	-	436165 565823
238	Motion Map Average Velocity 0.6 Gradient (mmyear):	A7NW (SE)	126	-	436165 565819
238	Motion Map Average Velocity 0.2 Gradient (mmyear):	A7NW (SE)	128	-	436162 565815
238	Motion Map Average Velocity -0.1 Gradient (mmyear):	A7NW (SE)	128	-	436164 565815
238	Motion Map Average Velocity 0.0 Gradient (mmyear):	A7NW (SE)	131	-	436162 565811
238	Motion Map Average Velocity -0.3 Gradient (mmyear):	A7NW (SE)	134	-	436162 565807
239	Motion Map Average Velocity 0.5 Gradient (mmyear):	A10SE (NW)	126	-	435800 566387
240	Motion Map Average Velocity -0.1 Gradient (mmyear):	A11SW (N)	128	-	436008 566408
241	Motion Map Average Velocity -0.1 Gradient (mmyear):	A10SE (N)	128	-	436001 566410
241	Motion Map Average Velocity 0.4 Gradient (mmyear):	A10SE (N)	132	-	436000 566414
242	Motion Map Average Velocity -0.7 Gradient (mmyear):	A10SE (NW)	129	-	435779 566208
243	Motion Map Average Velocity -0.5 Gradient (mmyear):	A7NW (SE)	129	-	436208 565874
243	Motion Map Average Velocity -0.8 Gradient (mmyear):	A7NW (SE)	130	-	436212 565882
243	Motion Map Average Velocity -0.7 Gradient (mmyear):	A7NW (SE)	130	-	436210 565878
243	Motion Map Average Velocity -0.9 Gradient (mmyear):	A7NW (SE)	131	-	436210 565874
243	Motion Map Average Velocity -1.2 Gradient (mmyear):	A7NW (SE)	132	-	436209 565870

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
244	Motion Map Average Velocity -1.2 Gradient (mmyear):	A7NW (SE)	130	-	436215 565897
245	Motion Map Average Velocity -1.4 Gradient (mmyear):	A11SW (N)	130	-	436032 566403
245	Motion Map Average Velocity -1.4 Gradient (mmyear):	A11SW (N)	130	-	436029 566403
245	Motion Map Average Velocity -1.3 Gradient (mmyear):	A11SW (N)	134	-	436030 566407
245	Motion Map Average Velocity -1.3 Gradient (mmyear):	A11SW (N)	138	-	436034 566410
245	Motion Map Average Velocity -1.3 Gradient (mmyear):	A11SW (N)	138	-	436032 566411
246	Motion Map Average Velocity -1.9 Gradient (mmyear):	A7NW (SE)	131	-	436222 565928
247	Motion Map Average Velocity -1.0 Gradient (mmyear):	A7NW (SE)	132	-	436234 565990
248	Motion Map Average Velocity 0.9 Gradient (mmyear):	A7NW (SE)	132	-	436132 565794
248	Motion Map Average Velocity 1.0 Gradient (mmyear):	A7NW (SE)	134	-	436135 565793
248	Motion Map Average Velocity 0.6 Gradient (mmyear):	A7NW (SE)	136	-	436131 565790
248	Motion Map Average Velocity 0.6 Gradient (mmyear):	A7NW (SE)	137	-	436134 565789
249	Motion Map Average Velocity -0.7 Gradient (mmyear):	A10SE (NW)	133	-	435769 566247
250	Motion Map Average Velocity -0.6 Gradient (mmyear):	A6NE (W)	133	-	435787 566112
250	Motion Map Average Velocity -1.0 Gradient (mmyear):	A6NE (W)	138	-	435783 566109
251	Motion Map Average Velocity -1.5 Gradient (mmyear):	A11SW (N)	134	-	436033 566407
252	Motion Map Average Velocity -0.7 Gradient (mmyear):	A7NW (SE)	134	-	436203 565851
253	Motion Map Average Velocity 1.2 Gradient (mmyear):	A6NE (S)	136	-	435955 565797
253	Motion Map Average Velocity 1.0 Gradient (mmyear):	A6NE (S)	137	-	435958 565797
253	Motion Map Average Velocity 1.4 Gradient (mmyear):	A6NE (S)	140	-	435956 565793

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
253	Motion Map Average Velocity 1.2 Gradient (mmyear):	A6NE (S)	144	-	435956 565789
254	Motion Map Average Velocity -0.7 Gradient (mmyear):	A7NW (SE)	137	-	436162 565803
254	Motion Map Average Velocity 0.4 Gradient (mmyear):	A7NW (SE)	143	-	436161 565795
255	Motion Map Average Velocity -0.1 Gradient (mmyear):	A7NW (SE)	138	-	436200 565839
255	Motion Map Average Velocity -0.2 Gradient (mmyear):	A7NW (SE)	140	-	436200 565835
255	Motion Map Average Velocity -0.4 Gradient (mmyear):	A7NW (SE)	141	-	436203 565839
255	Motion Map Average Velocity -0.3 Gradient (mmyear):	A7NW (SE)	143	-	436203 565835
256	Motion Map Average Velocity -2.1 Gradient (mmyear):	A11SW (E)	139	-	436228 566159
257	Motion Map Average Velocity 0.4 Gradient (mmyear):	A10SE (NW)	140	-	435767 566357
258	Motion Map Average Velocity -0.5 Gradient (mmyear):	A6NE (SW)	143	-	435859 565819
258	Motion Map Average Velocity -0.5 Gradient (mmyear):	A6NE (SW)	146	-	435859 565815
259	Motion Map Average Velocity -0.4 Gradient (mmyear):	A6NE (SW)	143	-	435835 565841
259	Motion Map Average Velocity -0.3 Gradient (mmyear):	A6NE (SW)	146	-	435834 565837
260	Motion Map Average Velocity 1.0 Gradient (mmyear):	A7NW (S)	144	-	436124 565779
260	Motion Map Average Velocity 1.0 Gradient (mmyear):	A7NW (S)	145	-	436127 565779
260	Motion Map Average Velocity 0.9 Gradient (mmyear):	A7NW (S)	147	-	436122 565776
260	Motion Map Average Velocity 0.8 Gradient (mmyear):	A7SW (S)	148	-	436126 565775
261	Motion Map Average Velocity -1.2 Gradient (mmyear):	A7NW (E)	146	-	436262 566077
262	Motion Map Average Velocity -1.7 Gradient (mmyear):	A7NW (SE)	147	-	436234 565909
262	Motion Map Average Velocity -1.5 Gradient (mmyear):	A7NW (SE)	148	-	436234 565905

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
263	Motion Map Average Velocity -0.8 Gradient (mmyear):	A10SE (NW)	149	-	435759 566209
263	Motion Map Average Velocity -0.7 Gradient (mmyear):	A10SE (W)	151	-	435757 566205
264	Motion Map Average Velocity 0.2 Gradient (mmyear):	A10SE (NW)	149	-	435799 566419
264	Motion Map Average Velocity 0.1 Gradient (mmyear):	A10SE (NW)	152	-	435800 566423
265	Motion Map Average Velocity -1.7 Gradient (mmyear):	A7NW (SE)	149	-	436235 565897
266	Motion Map Average Velocity -1.4 Gradient (mmyear):	A7NW (SE)	149	-	436236 565909
266	Motion Map Average Velocity -1.4 Gradient (mmyear):	A7NW (SE)	151	-	436237 565900
266	Motion Map Average Velocity -1.4 Gradient (mmyear):	A7NW (SE)	154	-	436239 565900
267	Motion Map Average Velocity 0.5 Gradient (mmyear):	A7SW (S)	151	-	436018 565775
268	Motion Map Average Velocity -0.3 Gradient (mmyear):	A6NE (S)	151	-	435881 565798
268	Motion Map Average Velocity -0.5 Gradient (mmyear):	A6NE (S)	155	-	435881 565794
269	Motion Map Average Velocity -1.6 Gradient (mmyear):	A7NW (SE)	151	-	436242 565924
269	Motion Map Average Velocity -1.6 Gradient (mmyear):	A7NW (SE)	151	-	436240 565920
270	Motion Map Average Velocity -0.2 Gradient (mmyear):	A6NE (SW)	151	-	435815 565854
271	Motion Map Average Velocity -0.6 Gradient (mmyear):	A7NW (SE)	151	-	436247 565955
272	Motion Map Average Velocity -1.1 Gradient (mmyear):	A10NE (N)	152	-	435891 566459
272	Motion Map Average Velocity -0.8 Gradient (mmyear):	A10NE (N)	156	-	435892 566463
273	Motion Map Average Velocity -0.3 Gradient (mmyear):	A6NE (W)	155	-	435766 566105
273	Motion Map Average Velocity -0.2 Gradient (mmyear):	A6NE (W)	156	-	435765 566110
274	Motion Map Average Velocity -0.1 Gradient (mmyear):	A7NW (SE)	156	-	436227 565849

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
274	Motion Map Average Velocity -0.3 Gradient (mmyear):	A7NW (SE)	156	-	436225 565846
275	Motion Map Average Velocity 0.2 Gradient (mmyear):	A6NE (SW)	157	-	435801 565865
275	Motion Map Average Velocity 0.1 Gradient (mmyear):	A6NE (SW)	158	-	435802 565861
275	Motion Map Average Velocity -0.3 Gradient (mmyear):	A6NE (SW)	160	-	435797 565866
276	Motion Map Average Velocity -0.6 Gradient (mmyear):	A10SE (W)	159	-	435761 566114
276	Motion Map Average Velocity -0.4 Gradient (mmyear):	A10SE (W)	162	-	435757 566119
276	Motion Map Average Velocity -0.5 Gradient (mmyear):	A10SE (W)	163	-	435757 566115
277	Motion Map Average Velocity -0.3 Gradient (mmyear):	A6NE (W)	161	-	435768 566043
277	Motion Map Average Velocity -0.3 Gradient (mmyear):	A6NE (W)	164	-	435765 566045
277	Motion Map Average Velocity -0.6 Gradient (mmyear):	A6NE (W)	165	-	435764 566041
277	Motion Map Average Velocity 0.3 Gradient (mmyear):	A6NE (W)	167	-	435762 566049
278	Motion Map Average Velocity -0.6 Gradient (mmyear):	A6NE (W)	162	-	435768 566039
278	Motion Map Average Velocity -0.9 Gradient (mmyear):	A6NE (W)	167	-	435763 566037
279	Motion Map Average Velocity 1.4 Gradient (mmyear):	A7SW (S)	162	-	436081 565756
280	Motion Map Average Velocity 0.1 Gradient (mmyear):	A10NE (N)	163	-	435925 566468
281	Motion Map Average Velocity -1.0 Gradient (mmyear):	A7NW (SE)	163	-	436195 565796
282	Motion Map Average Velocity -0.3 Gradient (mmyear):	A7NW (SE)	163	-	436219 565823
283	Motion Map Average Velocity 1.1 Gradient (mmyear):	A7SW (S)	164	-	436124 565759
283	Motion Map Average Velocity 1.1 Gradient (mmyear):	A7SW (S)	165	-	436127 565758
283	Motion Map Average Velocity 1.1 Gradient (mmyear):	A7SW (S)	166	-	436121 565755

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
283	Motion Map Average Velocity 1.1 Gradient (mmyear):	A7SW (S)	168	-	436124 565755
283	Motion Map Average Velocity 0.9 Gradient (mmyear):	A7SW (S)	170	-	436121 565752
283	Motion Map Average Velocity 0.8 Gradient (mmyear):	A7SW (S)	171	-	436124 565751
283	Motion Map Average Velocity 1.2 Gradient (mmyear):	A7SW (S)	178	-	436121 565743
284	Motion Map Average Velocity 1.1 Gradient (mmyear):	A7SW (SE)	164	-	436165 565774
284	Motion Map Average Velocity 1.1 Gradient (mmyear):	A7SW (SE)	165	-	436167 565774
284	Motion Map Average Velocity 0.9 Gradient (mmyear):	A7SW (SE)	167	-	436165 565770
285	Motion Map Average Velocity -0.5 Gradient (mmyear):	A7NW (SE)	165	-	436263 565967
285	Motion Map Average Velocity -1.0 Gradient (mmyear):	A7NW (SE)	166	-	436265 565971
286	Motion Map Average Velocity 0.8 Gradient (mmyear):	A7SW (SE)	168	-	436154 565764
286	Motion Map Average Velocity 0.8 Gradient (mmyear):	A7SW (SE)	169	-	436156 565764
286	Motion Map Average Velocity 0.8 Gradient (mmyear):	A7SW (SE)	172	-	436154 565760
287	Motion Map Average Velocity -0.2 Gradient (mmyear):	A7NW (SE)	170	-	436219 565810
287	Motion Map Average Velocity -0.2 Gradient (mmyear):	A7NW (SE)	177	-	436223 565805
288	Motion Map Average Velocity 0.0 Gradient (mmyear):	A6NE (W)	173	-	435748 566109
289	Motion Map Average Velocity 1.0 Gradient (mmyear):	A7SW (S)	173	-	436076 565746
289	Motion Map Average Velocity 1.2 Gradient (mmyear):	A7SW (S)	174	-	436080 565744
289	Motion Map Average Velocity 1.2 Gradient (mmyear):	A7SW (S)	178	-	436080 565740
290	Motion Map Average Velocity 1.8 Gradient (mmyear):	A6NE (SW)	175	-	435760 565989
290	Motion Map Average Velocity 1.7 Gradient (mmyear):	A6NE (SW)	177	-	435758 565985

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
291	Motion Map Average Velocity -1.8 Gradient (mmyear):	A11SW (N)	176	-	436112 566425
291	Motion Map Average Velocity -1.6 Gradient (mmyear):	A11SW (N)	180	-	436111 566430
292	Motion Map Average Velocity 0.9 Gradient (mmyear):	A10NE (NW)	176	-	435798 566452
293	Motion Map Average Velocity 0.4 Gradient (mmyear):	A10NE (NW)	179	-	435808 566462
293	Motion Map Average Velocity 0.7 Gradient (mmyear):	A10NE (NW)	181	-	435809 566465
293	Motion Map Average Velocity 0.8 Gradient (mmyear):	A10NE (NW)	183	-	435812 566469
293	Motion Map Average Velocity 0.7 Gradient (mmyear):	A10NE (NW)	185	-	435804 566467
294	Motion Map Average Velocity 1.0 Gradient (mmyear):	A7SW (SE)	180	-	436188 565769
294	Motion Map Average Velocity 0.9 Gradient (mmyear):	A7SW (SE)	183	-	436188 565765
295	Motion Map Average Velocity 0.1 Gradient (mmyear):	A6NE (W)	181	-	435746 566065
295	Motion Map Average Velocity -0.1 Gradient (mmyear):	A6NE (W)	183	-	435744 566061
295	Motion Map Average Velocity -0.3 Gradient (mmyear):	A6NE (W)	185	-	435743 566057
295	Motion Map Average Velocity -0.2 Gradient (mmyear):	A6NE (W)	187	-	435740 566058
296	Motion Map Average Velocity -0.9 Gradient (mmyear):	A6SE (S)	181	-	435958 565752
296	Motion Map Average Velocity -0.6 Gradient (mmyear):	A6SE (S)	185	-	435959 565748
297	Motion Map Average Velocity 0.9 Gradient (mmyear):	A7NW (SE)	182	-	436217 565791
297	Motion Map Average Velocity 0.5 Gradient (mmyear):	A7NW (SE)	184	-	436213 565784
298	Motion Map Average Velocity 0.7 Gradient (mmyear):	A10NE (NW)	184	-	435817 566472
298	Motion Map Average Velocity 1.2 Gradient (mmyear):	A10NE (NW)	186	-	435819 566475
298	Motion Map Average Velocity 1.0 Gradient (mmyear):	A10NE (NW)	188	-	435817 566476

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
298	Motion Map Average Velocity 0.9 Gradient (mmyear):	A10NE (NW)	190	-	435817 566480
299	Motion Map Average Velocity -0.6 Gradient (mmyear):	A7NW (SE)	184	-	436260 565858
299	Motion Map Average Velocity -0.9 Gradient (mmyear):	A7NW (SE)	185	-	436257 565847
299	Motion Map Average Velocity -0.5 Gradient (mmyear):	A7NW (SE)	186	-	436262 565854
300	Motion Map Average Velocity -1.9 Gradient (mmyear):	A7NW (SE)	185	-	436276 565924
300	Motion Map Average Velocity -1.9 Gradient (mmyear):	A7NW (SE)	185	-	436275 565920
300	Motion Map Average Velocity -1.9 Gradient (mmyear):	A7NW (SE)	185	-	436274 565916
300	Motion Map Average Velocity -1.9 Gradient (mmyear):	A7NW (SE)	188	-	436277 565916
301	Motion Map Average Velocity 1.5 Gradient (mmyear):	A7SW (S)	185	-	436119 565736
302	Motion Map Average Velocity 0.2 Gradient (mmyear):	A7NW (SE)	186	-	436277 565928
302	Motion Map Average Velocity 0.0 Gradient (mmyear):	A7NW (SE)	189	-	436281 565927
303	Motion Map Average Velocity -1.9 Gradient (mmyear):	A7NW (SE)	186	-	436275 565912
304	Motion Map Average Velocity -1.6 Gradient (mmyear):	A7SW (S)	186	-	436080 565732
305	Motion Map Average Velocity -0.9 Gradient (mmyear):	A6NE (W)	187	-	435741 566054
306	Motion Map Average Velocity -0.5 Gradient (mmyear):	A6SE (S)	188	-	435986 565741
307	Motion Map Average Velocity -0.5 Gradient (mmyear):	A7NW (SE)	188	-	436250 565824
308	Motion Map Average Velocity 0.9 Gradient (mmyear):	A7NW (SE)	188	-	436282 565943
309	Motion Map Average Velocity -0.2 Gradient (mmyear):	A7SW (S)	188	-	436070 565731
309	Motion Map Average Velocity -1.0 Gradient (mmyear):	A7SW (S)	192	-	436070 565727
309	Motion Map Average Velocity -1.0 Gradient (mmyear):	A7SW (S)	196	-	436070 565723

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
309	Motion Map Average Velocity -0.9 Gradient (mmyear):	A7SW (S)	196	-	436067 565723
309	Motion Map Average Velocity -1.0 Gradient (mmyear):	A7SW (S)	200	-	436069 565719
310	Motion Map Average Velocity 0.4 Gradient (mmyear):	A7NW (SE)	189	-	436286 565954
310	Motion Map Average Velocity 0.4 Gradient (mmyear):	A7NW (SE)	190	-	436287 565958
310	Motion Map Average Velocity 0.2 Gradient (mmyear):	A7NW (SE)	191	-	436288 565958
311	Motion Map Average Velocity -0.3 Gradient (mmyear):	A6NE (W)	190	-	435735 566079
312	Motion Map Average Velocity 1.6 Gradient (mmyear):	A7SW (SE)	191	-	436184 565753
313	Motion Map Average Velocity 1.0 Gradient (mmyear):	A10NE (NW)	192	-	435822 566483
313	Motion Map Average Velocity 1.1 Gradient (mmyear):	A10NE (NW)	194	-	435824 566487
313	Motion Map Average Velocity 0.9 Gradient (mmyear):	A10NE (NW)	194	-	435818 566484
313	Motion Map Average Velocity 1.1 Gradient (mmyear):	A10NE (NW)	196	-	435821 566487
313	Motion Map Average Velocity 1.2 Gradient (mmyear):	A10NE (NW)	197	-	435826 566490
313	Motion Map Average Velocity 1.2 Gradient (mmyear):	A10NE (NW)	199	-	435822 566491
313	Motion Map Average Velocity 1.2 Gradient (mmyear):	A10NE (NW)	201	-	435833 566497
314	Motion Map Average Velocity -0.1 Gradient (mmyear):	A7NW (E)	192	-	436305 566108
314	Motion Map Average Velocity 0.5 Gradient (mmyear):	A7NW (E)	194	-	436307 566112
315	Motion Map Average Velocity -1.0 Gradient (mmyear):	A7NW (E)	192	-	436299 566008
315	Motion Map Average Velocity -1.2 Gradient (mmyear):	A7NW (E)	193	-	436298 566004
315	Motion Map Average Velocity -1.3 Gradient (mmyear):	A7NW (E)	196	-	436303 566007
316	Motion Map Average Velocity 0.6 Gradient (mmyear):	A7NW (SE)	194	-	436249 565812

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
316	Motion Map Average Velocity 0.3 Gradient (mmyear):	A7NW (SE)	196	-	436249 565808
317	Motion Map Average Velocity 2.1 Gradient (mmyear):	A6NE (W)	194	-	435737 566026
318	Motion Map Average Velocity 1.5 Gradient (mmyear):	A7SW (SE)	194	-	436183 565749
319	Motion Map Average Velocity -0.4 Gradient (mmyear):	A7NW (E)	195	-	436297 565984
319	Motion Map Average Velocity -0.1 Gradient (mmyear):	A7NW (E)	197	-	436300 565988
320	Motion Map Average Velocity -0.6 Gradient (mmyear):	A6NE (W)	197	-	435736 566002
321	Motion Map Average Velocity -0.9 Gradient (mmyear):	A6SE (S)	204	-	435987 565725
321	Motion Map Average Velocity -0.9 Gradient (mmyear):	A6SE (S)	208	-	435986 565721
322	Motion Map Average Velocity -0.8 Gradient (mmyear):	A6SE (S)	204	-	435950 565729
322	Motion Map Average Velocity -1.3 Gradient (mmyear):	A6SE (S)	212	-	435948 565722
323	Motion Map Average Velocity -0.1 Gradient (mmyear):	A6SE (S)	204	-	435895 565738
323	Motion Map Average Velocity -0.2 Gradient (mmyear):	A6SE (S)	208	-	435894 565734
324	Motion Map Average Velocity -0.5 Gradient (mmyear):	A7NW (SE)	204	-	436278 565846
324	Motion Map Average Velocity -0.2 Gradient (mmyear):	A7NW (SE)	207	-	436282 565849
324	Motion Map Average Velocity -0.6 Gradient (mmyear):	A7NW (SE)	207	-	436279 565842
324	Motion Map Average Velocity -0.6 Gradient (mmyear):	A7NW (SE)	208	-	436282 565845
324	Motion Map Average Velocity -0.4 Gradient (mmyear):	A7NW (SE)	210	-	436284 565849
325	Motion Map Average Velocity 1.4 Gradient (mmyear):	A7SW (S)	204	-	436144 565722
325	Motion Map Average Velocity 1.1 Gradient (mmyear):	A7SW (S)	205	-	436146 565721
326	Motion Map Average Velocity -0.3 Gradient (mmyear):	A7NW (E)	204	-	436309 565998

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
327	Motion Map Average Velocity 0.9 Gradient (mmyear):	A10NE (NW)	205	-	435832 566501
327	Motion Map Average Velocity 1.1 Gradient (mmyear):	A10NE (N)	208	-	435833 566505
328	Motion Map Average Velocity -0.6 Gradient (mmyear):	A6SE (S)	206	-	435970 565725
328	Motion Map Average Velocity -0.4 Gradient (mmyear):	A6SE (S)	210	-	435969 565721
329	Motion Map Average Velocity 1.8 Gradient (mmyear):	A7SW (SE)	206	-	436179 565734
329	Motion Map Average Velocity 1.9 Gradient (mmyear):	A7SW (SE)	208	-	436182 565733
330	Motion Map Average Velocity 1.0 Gradient (mmyear):	A7SW (SE)	208	-	436207 565748
331	Motion Map Average Velocity -1.6 Gradient (mmyear):	A7NW (E)	209	-	436324 566092
332	Motion Map Average Velocity -2.4 Gradient (mmyear):	A11SW (E)	209	-	436307 566161
332	Motion Map Average Velocity -2.5 Gradient (mmyear):	A11SW (E)	213	-	436310 566164
332	Motion Map Average Velocity -2.6 Gradient (mmyear):	A11SW (E)	217	-	436313 566168
333	Motion Map Average Velocity 1.0 Gradient (mmyear):	A7SW (SE)	209	-	436178 565731
334	Motion Map Average Velocity 0.4 Gradient (mmyear):	A7NW (SE)	209	-	436278 565834
334	Motion Map Average Velocity 0.5 Gradient (mmyear):	A7NW (SE)	211	-	436278 565830
334	Motion Map Average Velocity -0.3 Gradient (mmyear):	A7NW (SE)	212	-	436280 565833
335	Motion Map Average Velocity -1.6 Gradient (mmyear):	A7NW (SE)	210	-	436294 565887
335	Motion Map Average Velocity -1.7 Gradient (mmyear):	A7NW (SE)	210	-	436296 565895
335	Motion Map Average Velocity -1.5 Gradient (mmyear):	A7NW (SE)	211	-	436296 565891
335	Motion Map Average Velocity -1.6 Gradient (mmyear):	A7NW (SE)	213	-	436299 565894
336	Motion Map Average Velocity -1.3 Gradient (mmyear):	A10SE (W)	210	-	435699 566197

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
336	Motion Map Average Velocity -1.2 Gradient (mmyear):	A10SE (W)	211	-	435697 566202
337	Motion Map Average Velocity 0.4 Gradient (mmyear):	A10SE (NW)	211	-	435725 566428
337	Motion Map Average Velocity 0.7 Gradient (mmyear):	A10SE (NW)	212	-	435726 566432
337	Motion Map Average Velocity 0.3 Gradient (mmyear):	A10SE (NW)	214	-	435722 566429
337	Motion Map Average Velocity 0.4 Gradient (mmyear):	A10SE (NW)	216	-	435721 566433
338	Motion Map Average Velocity 0.4 Gradient (mmyear):	A10NE (N)	212	-	435840 566511
338	Motion Map Average Velocity 0.6 Gradient (mmyear):	A10NE (N)	215	-	435843 566515
338	Motion Map Average Velocity 0.8 Gradient (mmyear):	A10NE (N)	216	-	435840 566515
339	Motion Map Average Velocity -0.7 Gradient (mmyear):	A6SE (S)	212	-	435986 565717
339	Motion Map Average Velocity -0.8 Gradient (mmyear):	A6SE (S)	215	-	435981 565714
339	Motion Map Average Velocity -0.6 Gradient (mmyear):	A6SE (S)	215	-	435975 565715
339	Motion Map Average Velocity -0.8 Gradient (mmyear):	A6SE (S)	220	-	435979 565710
339	Motion Map Average Velocity -0.2 Gradient (mmyear):	A6SE (S)	223	-	435980 565706
339	Motion Map Average Velocity -0.6 Gradient (mmyear):	A6SE (S)	228	-	435979 565702
340	Motion Map Average Velocity -0.7 Gradient (mmyear):	A7NW (SE)	212	-	436290 565859
341	Motion Map Average Velocity -1.5 Gradient (mmyear):	A10SE (W)	212	-	435696 566199
342	Motion Map Average Velocity -1.0 Gradient (mmyear):	A7NW (SE)	212	-	436308 565949
342	Motion Map Average Velocity 0.2 Gradient (mmyear):	A7NW (SE)	214	-	436308 565937
342	Motion Map Average Velocity 0.1 Gradient (mmyear):	A7NW (SE)	214	-	436309 565941
342	Motion Map Average Velocity 0.3 Gradient (mmyear):	A7NW (SE)	215	-	436310 565949

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
343	Motion Map Average Velocity -0.7 Gradient (mmyear):	A7SW (S)	214	-	436109 565706
343	Motion Map Average Velocity -0.2 Gradient (mmyear):	A7SW (S)	215	-	436112 565705
343	Motion Map Average Velocity -0.5 Gradient (mmyear):	A7SW (S)	218	-	436108 565702
343	Motion Map Average Velocity -0.4 Gradient (mmyear):	A7SW (S)	219	-	436111 565701
343	Motion Map Average Velocity -0.4 Gradient (mmyear):	A7SW (S)	223	-	436112 565696
344	Motion Map Average Velocity 1.6 Gradient (mmyear):	A7NW (SE)	214	-	436307 565933
345	Motion Map Average Velocity 1.7 Gradient (mmyear):	A7SW (SE)	216	-	436209 565740
346	Motion Map Average Velocity 0.7 Gradient (mmyear):	A6NE (SW)	216	-	435790 565782
346	Motion Map Average Velocity -0.4 Gradient (mmyear):	A6NE (SW)	218	-	435792 565778
347	Motion Map Average Velocity -2.0 Gradient (mmyear):	A11SW (E)	216	-	436318 566150
348	Motion Map Average Velocity 0.4 Gradient (mmyear):	A7NW (SE)	217	-	436275 565810
349	Motion Map Average Velocity 0.1 Gradient (mmyear):	A6NE (W)	218	-	435710 566053
349	Motion Map Average Velocity -0.2 Gradient (mmyear):	A6NE (W)	220	-	435709 566049
350	Motion Map Average Velocity 0.9 Gradient (mmyear):	A10SE (NW)	218	-	435708 566415
351	Motion Map Average Velocity 0.4 Gradient (mmyear):	A7SW (S)	220	-	436144 565706
351	Motion Map Average Velocity 0.1 Gradient (mmyear):	A7SW (S)	221	-	436146 565705
351	Motion Map Average Velocity -0.6 Gradient (mmyear):	A7SW (S)	223	-	436141 565702
351	Motion Map Average Velocity -0.6 Gradient (mmyear):	A7SW (S)	224	-	436143 565702
352	Motion Map Average Velocity 0.6 Gradient (mmyear):	A7NW (SE)	220	-	436272 565799
352	Motion Map Average Velocity 0.6 Gradient (mmyear):	A7NW (SE)	221	-	436270 565795

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
352	Motion Map Average Velocity 0.3 Gradient (mmyear):	A7NW (SE)	222	-	436269 565791
352	Motion Map Average Velocity 0.5 Gradient (mmyear):	A7NW (SE)	224	-	436273 565794
352	Motion Map Average Velocity 0.2 Gradient (mmyear):	A7NW (SE)	226	-	436273 565790
352	Motion Map Average Velocity 0.6 Gradient (mmyear):	A7NW (SE)	227	-	436269 565783
353	Motion Map Average Velocity -1.8 Gradient (mmyear):	A7NW (E)	222	-	436332 566029
354	Motion Map Average Velocity 0.2 Gradient (mmyear):	A10NE (N)	223	-	435965 566520
355	Motion Map Average Velocity 0.1 Gradient (mmyear):	A6NE (SW)	225	-	435723 565879
355	Motion Map Average Velocity -0.4 Gradient (mmyear):	A6NE (SW)	230	-	435719 565876
356	Motion Map Average Velocity -0.1 Gradient (mmyear):	A7SW (S)	226	-	436110 565693
356	Motion Map Average Velocity -0.2 Gradient (mmyear):	A7SW (S)	230	-	436108 565690
356	Motion Map Average Velocity 0.1 Gradient (mmyear):	A7SW (S)	231	-	436111 565689
357	Motion Map Average Velocity 1.1 Gradient (mmyear):	A7SW (SE)	226	-	436176 565711
357	Motion Map Average Velocity 0.0 Gradient (mmyear):	A7SW (SE)	229	-	436175 565707
357	Motion Map Average Velocity 0.9 Gradient (mmyear):	A7SW (SE)	231	-	436178 565706
358	Motion Map Average Velocity 1.0 Gradient (mmyear):	A7SW (SE)	227	-	436231 565743
358	Motion Map Average Velocity 1.2 Gradient (mmyear):	A7SW (SE)	229	-	436233 565742
358	Motion Map Average Velocity 1.0 Gradient (mmyear):	A7SW (SE)	231	-	436233 565738
359	Motion Map Average Velocity 1.5 Gradient (mmyear):	A7NW (SE)	229	-	436266 565776
359	Motion Map Average Velocity 1.3 Gradient (mmyear):	A7SW (SE)	230	-	436259 565765
359	Motion Map Average Velocity 1.3 Gradient (mmyear):	A7SW (SE)	231	-	436265 565772

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
359	Motion Map Average Velocity 1.1 Gradient (mmyear):	A7NW (SE)	231	-	436271 565778
359	Motion Map Average Velocity 1.3 Gradient (mmyear):	A7SW (SE)	232	-	436270 565775
359	Motion Map Average Velocity 1.1 Gradient (mmyear):	A7SW (SE)	234	-	436269 565771
359	Motion Map Average Velocity 1.2 Gradient (mmyear):	A7SW (SE)	235	-	436272 565774
359	Motion Map Average Velocity 1.0 Gradient (mmyear):	A7SW (SE)	237	-	436272 565770
359	Motion Map Average Velocity 0.9 Gradient (mmyear):	A7SW (SE)	237	-	436269 565767
360	Motion Map Average Velocity 0.6 Gradient (mmyear):	A6SE (SW)	231	-	435836 565731
360	Motion Map Average Velocity 0.0 Gradient (mmyear):	A6SE (SW)	235	-	435833 565727
361	Motion Map Average Velocity 1.0 Gradient (mmyear):	A6SE (SW)	232	-	435787 565762
361	Motion Map Average Velocity 1.0 Gradient (mmyear):	A6SE (SW)	234	-	435784 565763
361	Motion Map Average Velocity 0.9 Gradient (mmyear):	A6SE (SW)	236	-	435786 565759
361	Motion Map Average Velocity 0.9 Gradient (mmyear):	A6SE (SW)	237	-	435784 565759
362	Motion Map Average Velocity -0.4 Gradient (mmyear):	A7SW (S)	234	-	436139 565691
363	Motion Map Average Velocity -0.2 Gradient (mmyear):	A7NW (SE)	234	-	436314 565862
364	Motion Map Average Velocity 1.0 Gradient (mmyear):	A7SW (SE)	237	-	436263 565760
364	Motion Map Average Velocity 1.0 Gradient (mmyear):	A7SW (SE)	237	-	436263 565760
365	Motion Map Average Velocity 0.4 Gradient (mmyear):	A6SE (S)	237	-	435862 565713
366	Motion Map Average Velocity 0.5 Gradient (mmyear):	A6NE (SW)	238	-	435697 565982
367	Motion Map Average Velocity 0.9 Gradient (mmyear):	A7SW (SE)	239	-	436263 565756
367	Motion Map Average Velocity 0.8 Gradient (mmyear):	A7SW (SE)	240	-	436257 565749

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
367	Motion Map Average Velocity 0.7 Gradient (mmyear):	A7SW (SE)	241	-	436264 565755
367	Motion Map Average Velocity 1.0 Gradient (mmyear):	A7SW (SE)	241	-	436256 565745
367	Motion Map Average Velocity 0.8 Gradient (mmyear):	A7SW (SE)	242	-	436260 565748
368	Motion Map Average Velocity -0.3 Gradient (mmyear):	A7SW (S)	239	-	436052 565682
368	Motion Map Average Velocity -0.4 Gradient (mmyear):	A7SW (S)	239	-	436050 565682
368	Motion Map Average Velocity -0.8 Gradient (mmyear):	A7SW (S)	242	-	436047 565679
368	Motion Map Average Velocity -0.7 Gradient (mmyear):	A7SW (S)	243	-	436050 565678
369	Motion Map Average Velocity 1.1 Gradient (mmyear):	A10SW (NW)	242	-	435656 566281
369	Motion Map Average Velocity 0.8 Gradient (mmyear):	A10SW (NW)	243	-	435655 566277
370	Motion Map Average Velocity -0.2 Gradient (mmyear):	A7NW (E)	243	-	436343 565970
371	Motion Map Average Velocity 0.7 Gradient (mmyear):	A10NE (N)	244	-	435868 566550
372	Motion Map Average Velocity -2.2 Gradient (mmyear):	A7SW (S)	244	-	436134 565679
373	Motion Map Average Velocity 1.0 Gradient (mmyear):	A7SW (SE)	244	-	436227 565719
373	Motion Map Average Velocity 1.4 Gradient (mmyear):	A7SW (SE)	247	-	436223 565712
373	Motion Map Average Velocity 0.1 Gradient (mmyear):	A7SW (SE)	249	-	436222 565708
373	Motion Map Average Velocity 0.2 Gradient (mmyear):	A7SW (SE)	250	-	436226 565711
374	Motion Map Average Velocity 0.8 Gradient (mmyear):	A10NE (NW)	244	-	435719 566474
374	Motion Map Average Velocity 0.7 Gradient (mmyear):	A10NE (NW)	247	-	435719 566478
375	Motion Map Average Velocity 0.6 Gradient (mmyear):	A6SE (S)	246	-	435833 565716
376	Motion Map Average Velocity 0.4 Gradient (mmyear):	A7SW (S)	248	-	436136 565675

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
377	Motion Map Average Velocity 1.4 Gradient (mmyear):	A7SW (SE)	248	-	436253 565733
378	Motion Map Average Velocity 0.6 Gradient (mmyear):	A7SW (S)	249	-	436163 565681
379	Motion Map Average Velocity 1.2 Gradient (mmyear):	A7SW (SE)	250	-	436252 565730
380	Motion Map Average Velocity -0.1 Gradient (mmyear):	A7NW (SE)	250	-	436311 565806

The following mapping has been analysed for Historical Land Use Information (1:2,500):

1:2,500	Mapsheet	Published Date
Durham	003_08	1858
Durham	003_08	1858
Durham	004_05	1858
Durham	004_05	1858
Durham	004_05	1858
Durham	004_05	1858
Northumberland	089_16	1861
Northumberland	089_16	1861
Northumberland	098_04	1861
Northumberland	098_04	1861
Northumberland	098_04	1861
Northumberland	098_04	1861
Durham	004_09	1874
Durham	004_09	1874
Durham	003_12	1876
Durham	003_08	1897
Durham	003_08	1897
Durham	003_12	1897
Durham	004_05	1897
Durham	004_05	1897
Durham	004_05	1897
Durham	004_05	1897
Durham	004_09	1897
Durham	004_09	1897
Durham	004_05	1915
Durham	004_05	1915
Durham	004_05	1915
Durham	004_05	1915
Durham	003_08	1916
Durham	003_08	1916
Durham	004_09	1916
Durham	004_09	1916
Durham	003_12	1918
Durham	003_08	1938
Durham	003_08	1938
Durham	003_12	1942
Durham	004_09	1942
Durham	004_09	1942

1:2,500	Mapsheet	Published Date
Ordnance Survey Plan	NZ3565	1956
Ordnance Survey Plan	NZ3566	1956
Ordnance Survey Plan	NZ3566	1956
Ordnance Survey Plan	NZ3666	1956
Ordnance Survey Plan	NZ3666	1956
Ordnance Survey Plan	NZ3666	1956
Ordnance Survey Plan	NZ3666	1956







The following mapping has been analysed for Historical Land Use Information (1:10,000):

1:10,560	Mapsheet	Published Date
Durham	003_00	1862
Durham	004_00	1862
Northumberland	098_00	1864
Northumberland	089_00	1865
Durham	003_NE	1898
Durham	003_SE	1898
Durham	004_NW	1898
Durham	004_SW	1898
Northumberland	089_SE	1899
Northumberland	098_NE	1899
Durham	003_NE	1921
Durham	003_SE	1921
Durham	004_NW	1921
Durham	004_SW	1921
Durham	003_NE	1938
Durham	003_SE	1938
Durham	004_NW	1938
Durham	004_SW	1938
Northumberland	095_NE	1938
Northumberland	096_NW	1938
Ordnance Survey Plan	NZ36NW	1951
Ordnance Survey Plan	NZ36SE	1951
Ordnance Survey Plan	NZ36NE	1952
Ordnance Survey Plan	NZ36SW	1952
1:10,000	Mapsheet	Published Date
Ordnance Survey Plan	NZ36SE	1987
Ordnance Survey Plan	NZ36SW	1992
Ordnance Survey Plan	NZ36NE	1993
Ordnance Survey Plan	NZ36NW	1995

Mining and Cavities Data	Version	Update Cycle
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	April 2011	Bi-Annually
Coal Mining Affected Areas The Coal Authority - Mining Report Service	January 2006	As notified
Man Made Mining Cavities Peter Brett Associates	November 2010	Bi-Annually
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Natural Cavities Peter Brett Associates	June 2011	Bi-Annually
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	February 2011	Not Applicable
Historical Land Use Information (1:2,500)	Version	Update Cycle
Subterranean Features Landmark Information Group Limited	July 2010	Bi-Annually
Ground Stability Data (1:50,000)	Version	Update Cycle
Brine Compensation Area Cheshire Brine Subsidence Compensation Board	November 2002	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2010	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2010	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2010	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2010	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2010	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2010	Annually
Subsidence Insurance Claims SP Property Services	May 2011	Quarterly
Subsidence Investigations CET Group	May 2011	Quarterly

Motion Map Data (1:2,500)	Version	Update Cycle
Motion Map		
Nigel Press Associates - Hampshire	February 2011	As notified
Nigel Press Associates - Cambridge	January 2011	As notified
Nigel Press Associates - Ipswich	January 2011	As notified
Nigel Press Associates - Norwich	January 2011	As notified
Nigel Press Associates - Peterborough	January 2011	As notified
Nigel Press Associates - Barnstaple	July 2010	As notified
Nigel Press Associates - Derbyshire	July 2010	As notified
Nigel Press Associates - Humberside	July 2010	As notified
Nigel Press Associates - Kent	July 2010	As notified
Nigel Press Associates - Lincolnshire	July 2010	As notified
Nigel Press Associates - Nottinghamshire	July 2010	As notified
Nigel Press Associates - Birmingham	May 2009	As notified
Nigel Press Associates - Bournemouth	May 2009	As notified
Nigel Press Associates - Brighton	May 2009	As notified
Nigel Press Associates - Bristol	May 2009	As notified
Nigel Press Associates - Cardiff	May 2009	As notified
Nigel Press Associates - Central London	May 2009	As notified
Nigel Press Associates - Cheltenham	May 2009	As notified
Nigel Press Associates - Coventry	May 2009	As notified
Nigel Press Associates - Crawley	May 2009	As notified
Nigel Press Associates - Edinburgh	May 2009	As notified
Nigel Press Associates - Exeter	May 2009	As notified
Nigel Press Associates - Glasgow	May 2009	As notified
Nigel Press Associates - Isle of Wight	May 2009	As notified
Nigel Press Associates - Leeds	May 2009	As notified
Nigel Press Associates - Leicester	May 2009	As notified
Nigel Press Associates - Liverpool	May 2009	As notified
Nigel Press Associates - Manchester	May 2009	As notified
Nigel Press Associates - Milton Keynes	May 2009	As notified
Nigel Press Associates - Newcastle	May 2009	As notified
Nigel Press Associates - Northwich	May 2009	As notified
Nigel Press Associates - Nottingham	May 2009	As notified
Nigel Press Associates - Oxford	May 2009	As notified
Nigel Press Associates - Plymouth	May 2009	As notified
Nigel Press Associates - Portsmouth	May 2009	As notified
Nigel Press Associates - Preston	May 2009	As notified
Nigel Press Associates - Reading	May 2009	As notified
Nigel Press Associates - Sheffield	May 2009	As notified
Nigel Press Associates - Stoke	May 2009	As notified
Nigel Press Associates - Swindon	May 2009	As notified
Nigel Press Associates - Tonbridge	May 2009	As notified
Nigel Press Associates - North London	November 2008	As notified
Nigel Press Associates - Head Office	September 2008	As notified

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
British Geological Survey	 British Geological Survey <small>NATURAL ENVIRONMENT RESEARCH COUNCIL</small>
The Coal Authority	THE COAL AUTHORITY
Ove Arup	
Peter Brett Associates	
Wardell Armstrong	 <small>your earth our world</small>
Johnson Poole & Bloomer	

Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	The Coal Authority - Mining Report Service 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0845 7626848 Email: thecoalauthority@coal.gov.uk
3	Ove Arup & Partners Central Square, Forth Street, Newcastle upon Tyne, Tyne and Wear, NE1 3PL	Telephone: 0191 261 6080 Fax: 0191 261 7879
4	Landmark Information Group Limited The Smith Centre, Henley on Thames, Oxfordshire, RG9 6AB	Telephone: 0844 844 9960 Fax: 0844 844 9951 Email: customerservice@promap.co.uk Website: www.landmarkinfo.co.uk
-	Landmark Information Group Limited The Smith Centre, Henley On Thames, Oxfordshire, RG9 6AB	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

Historical Land Use Information (1:2,500)

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location
- Pylon
- Overhead Transmission Line

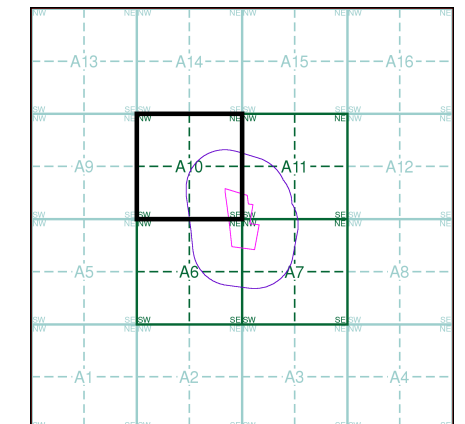
Potentially Contaminative Industrial Uses (Extractive Industries Activity)

	Point	Line	Polygon
Extractive Industries Activity from 1855 - 1909			
Extractive Industries Activity from 1893 - 1915			
Extractive Industries Activity from 1906 - 1937			
Extractive Industries Activity from 1924 - 1949			
Extractive Industries Activity from 1950 - 1980			

Subterranean Features

	Point	Line	Polygon
Subterranean Features			

Mining and Ground Stability - Segment A10



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Plot Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



436200

436400

436600



Historical Land Use Information (1:2,500)

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location
- Pylon
- Overhead Transmission Line

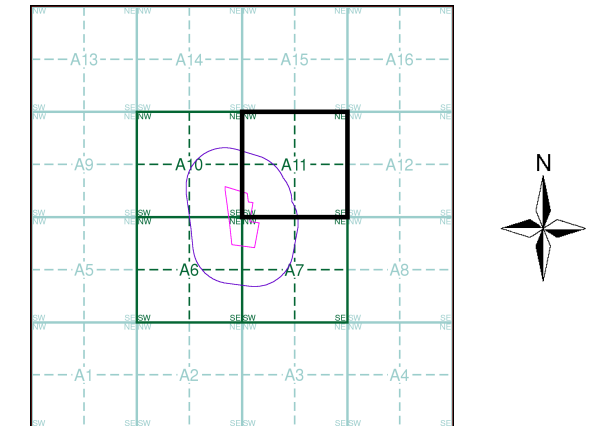
Potentially Contaminative Industrial Uses (Extractive Industries Activity)

	Point	Line	Polygon
Extractive Industries Activity from 1855 - 1909	▲	—	■
Extractive Industries Activity from 1893 - 1915	▲	—	■
Extractive Industries Activity from 1906 - 1937	▲	—	■
Extractive Industries Activity from 1924 - 1949	▲	—	■
Extractive Industries Activity from 1950 - 1980	▲	—	■

Subterranean Features

	Point	Line	Polygon
Subterranean Features	▼	- - -	■

Mining and Ground Stability - Segment A11



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Plot Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



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Motion Map Data (1:2,500)

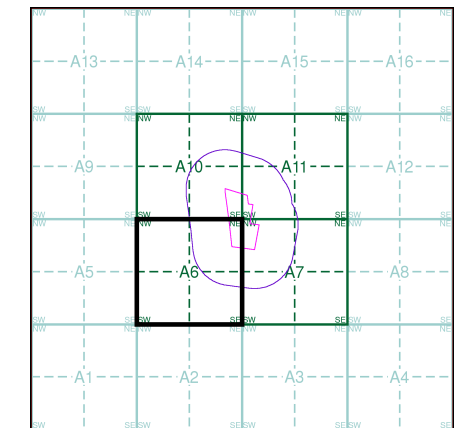
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location
- Pylon
- Overhead Transmission Line

Average Velocity Gradient

- Upward Movement > 3.5mm per year
- Upward Movement 1.5mm to 3.5mm per year
- Stable 1.5mm to -1.5mm per year
- Downward Movement -1.5mm to -3.5mm per year
- Downward Movement > -3.5mm per year

Mining and Ground Stability - Segment A6

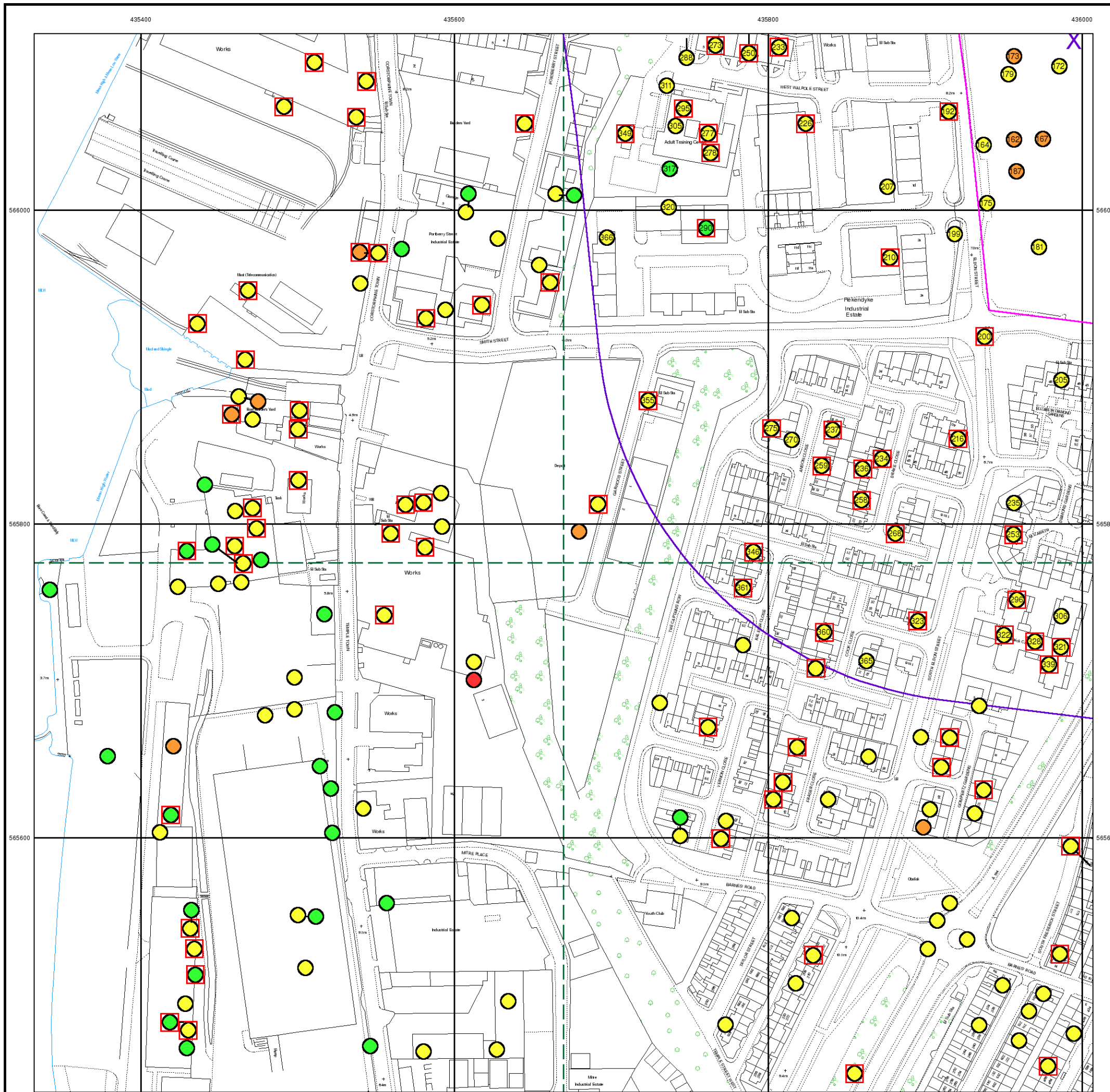


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Plot Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



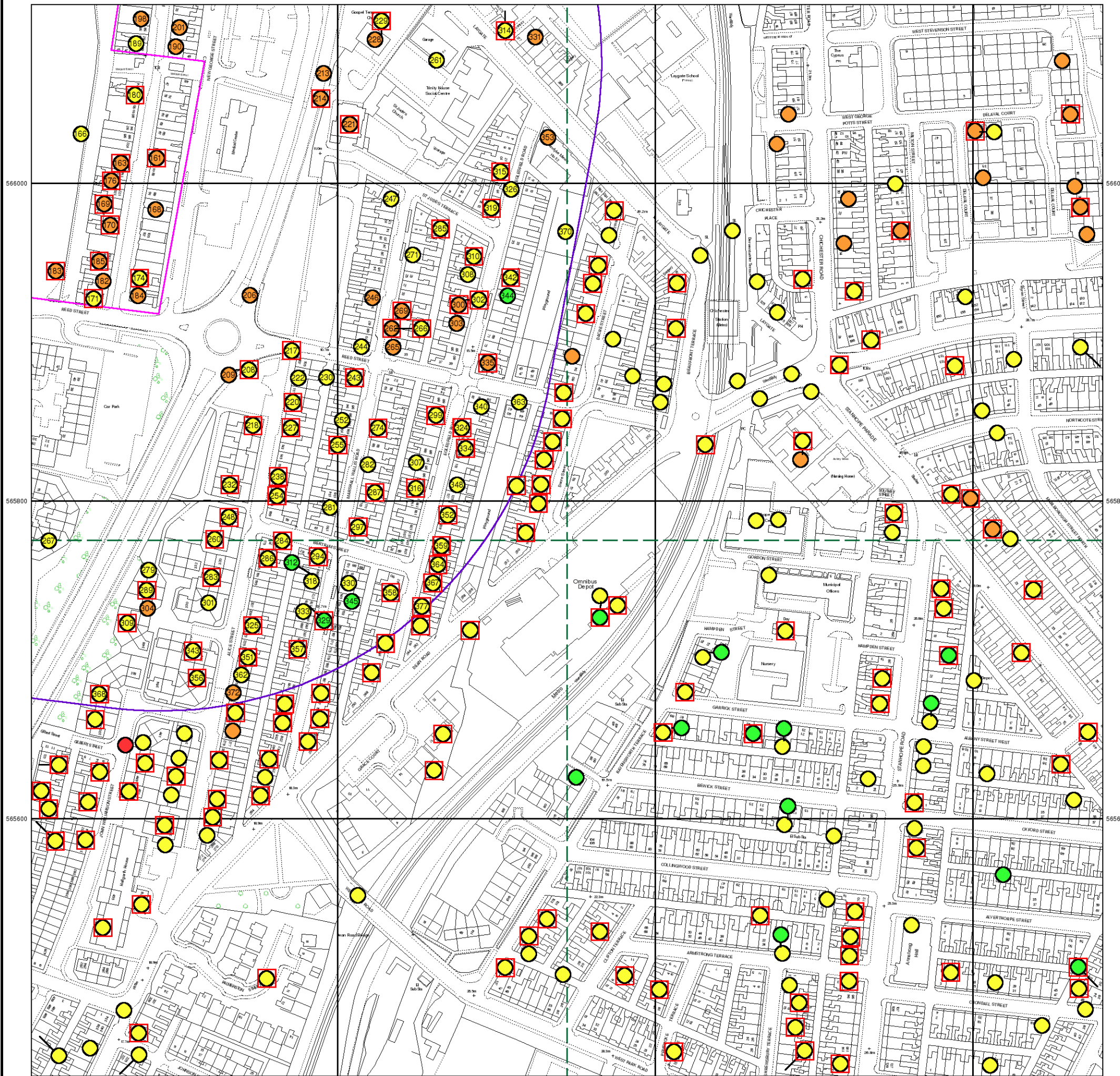
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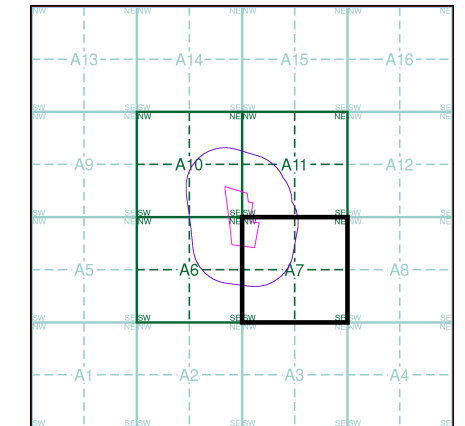
- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point
- Map ID
- Several of Type at Location
- Pylon
- Overhead Transmission Line

Average Velocity Gradient

- Upward Movement > 3.5mm per year ●
- Upward Movement 1.5mm to 3.5mm per year ●
- Stable 1.5mm to -1.5mm per year ●
- Downward Movement -1.5mm to -3.5mm per year ●
- Downward Movement > -3.5mm per year ●



Mining and Ground Stability - Segment A7



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Plot Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear

Motion Map Data (1:2,500)

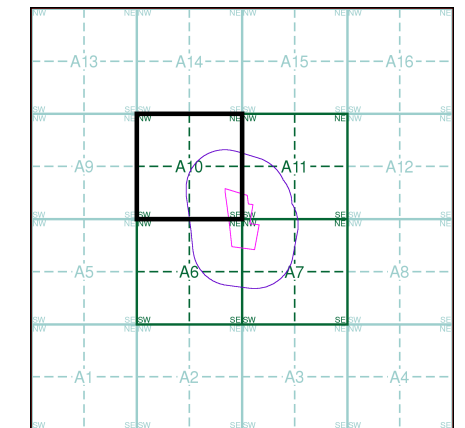
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location
- Pylon
- Overhead Transmission Line

Average Velocity Gradient

- Upward Movement > 3.5mm per year
- Upward Movement 1.5mm to 3.5mm per year
- Stable 1.5mm to -1.5mm per year
- Downward Movement -1.5mm to -3.5mm per year
- Downward Movement > -3.5mm per year

Mining and Ground Stability - Segment A10

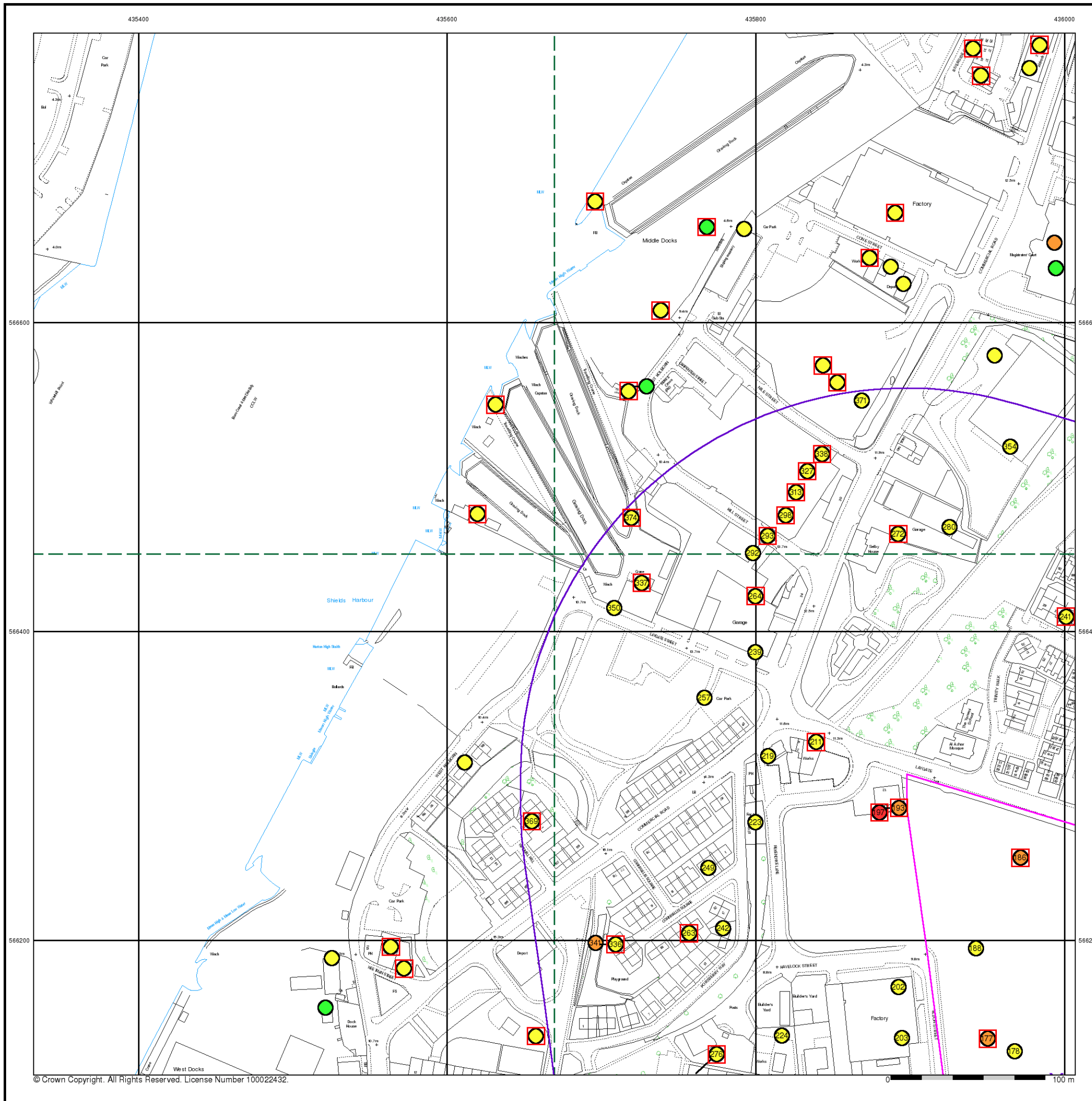


Order Details

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 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Plot Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



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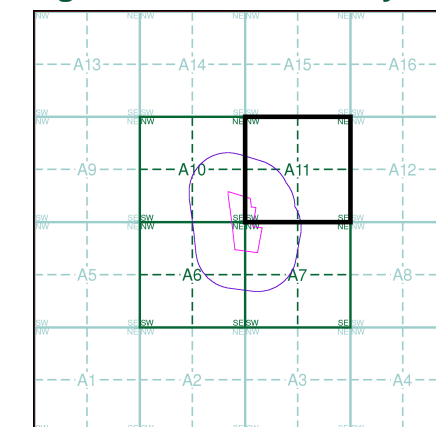
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location
- Pylon
- Overhead Transmission Line

Average Velocity Gradient

- Upward Movement > 3.5mm per year
- Upward Movement 1.5mm to 3.5mm per year
- Stable 1.5mm to -1.5mm per year
- Downward Movement -1.5mm to -3.5mm per year
- Downward Movement > -3.5mm per year

Mining and Ground Stability - Segment A11

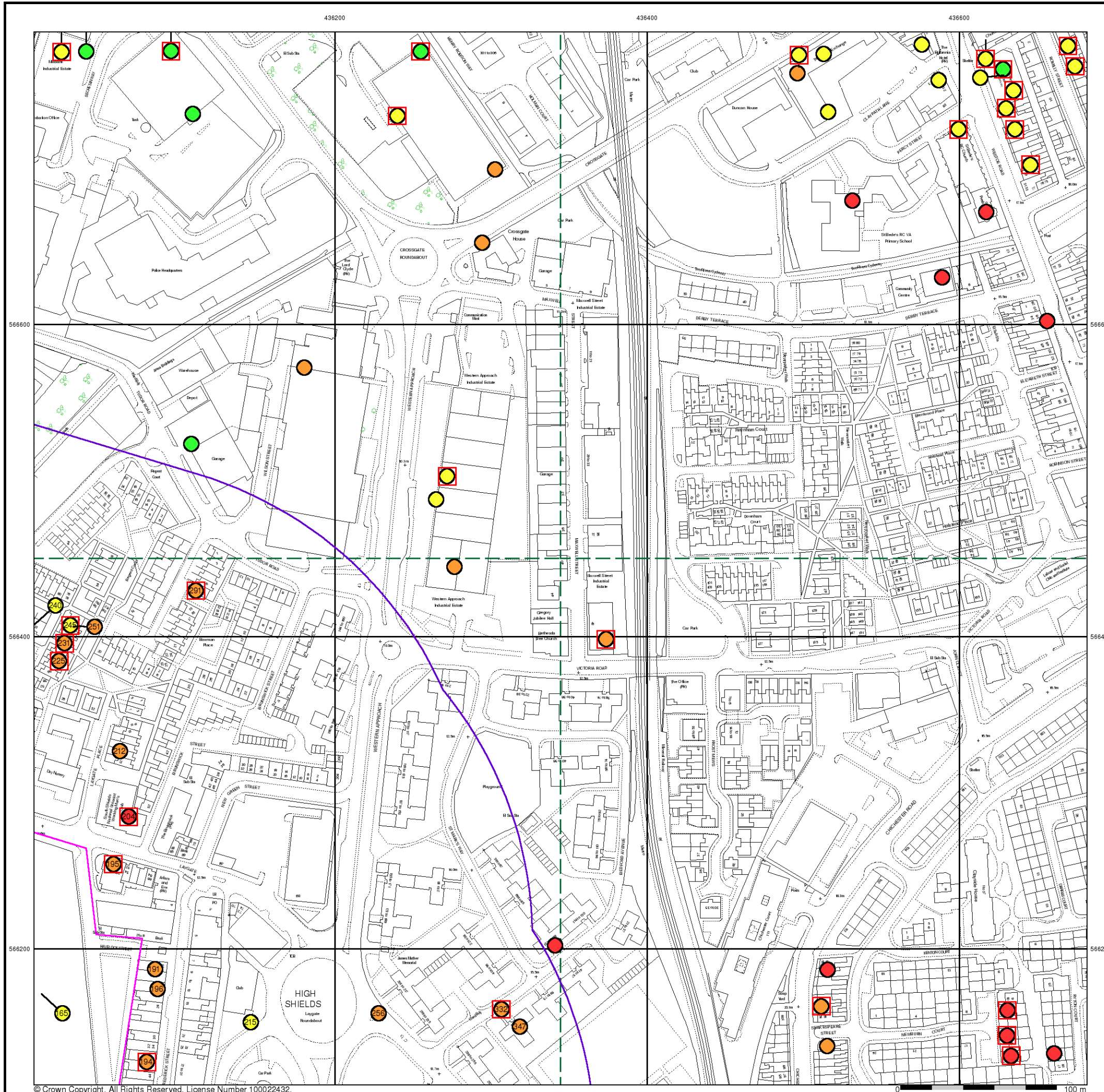


Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Plot Buffer (m): 250

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



Historical Land Use Information (1:10,000)

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location

Potentially Contaminative Industrial Uses (Past Land Uses - Mining)

	Point	Line	Polygon
Air Shafts			
Disturbed Ground			
General Quarrying			
Heap, unknown constituents			
Mineral Railway			
Mining and Quarrying General			
Mining of Coal & Lignite			
Quarrying of Sand and Clay, Operation of Sand and Gravel Pits			

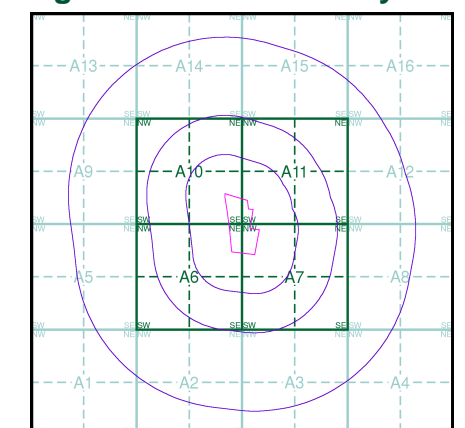
Historical Land Use

	Point	Line	Polygon
Potentially Infilled Land (Non-Water)			
Potentially Infilled Land (Water)			
Former Marsh			

Mining Data

- Potential Mining Area
- BGS Recorded Mineral Site

Mining and Ground Stability - Slice A

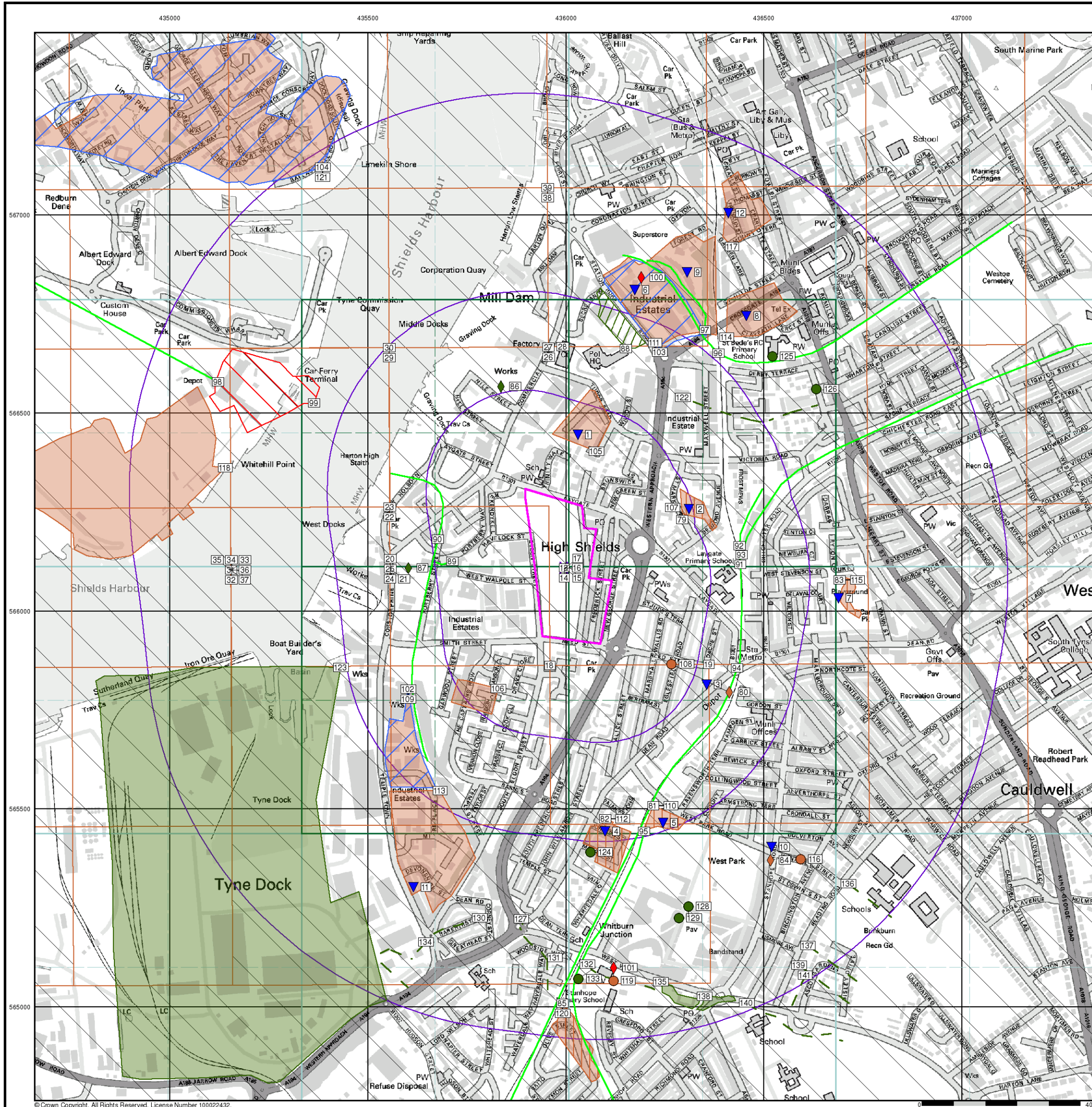


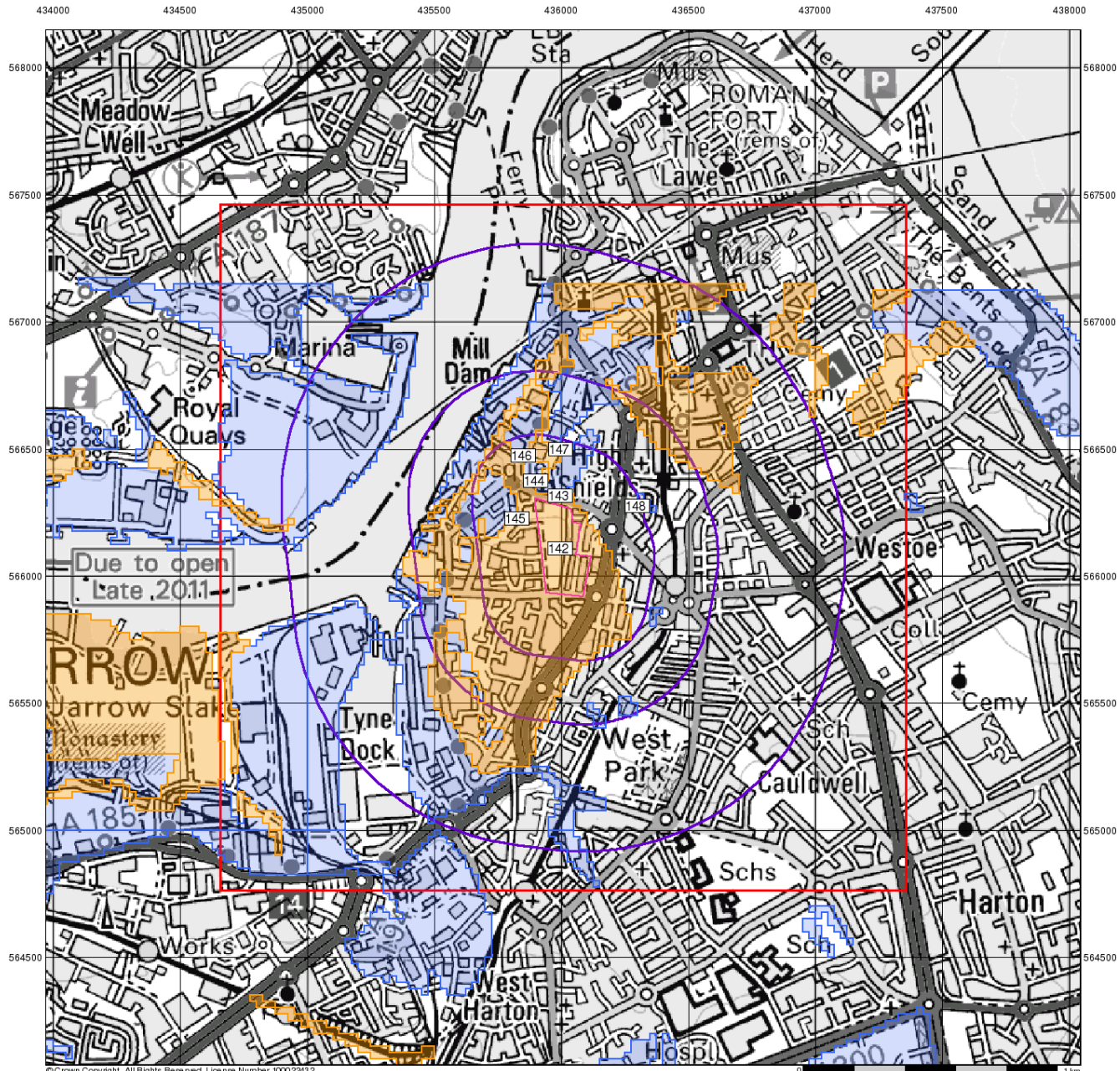
Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

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Ground Stability Data (1:50,000)

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Potential for Compressible Ground Stability Hazards

- High
- Low
- Moderate
- Very Low

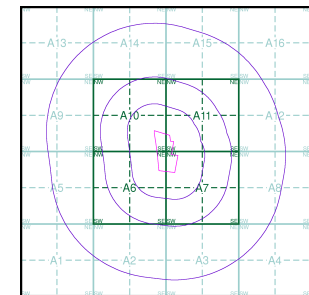
Potential for Collapsible Ground Stability Hazards

- High
- Low
- Moderate
- Very Low

Brine Pumping and Salt Mining

- | | Point | Polygon |
|-------------------------------|-------|---------|
| Brine Pumping Related Feature | | |
| Salt Mining Related Feature | | |

Mining and Ground Stability - Slice A



Order Details

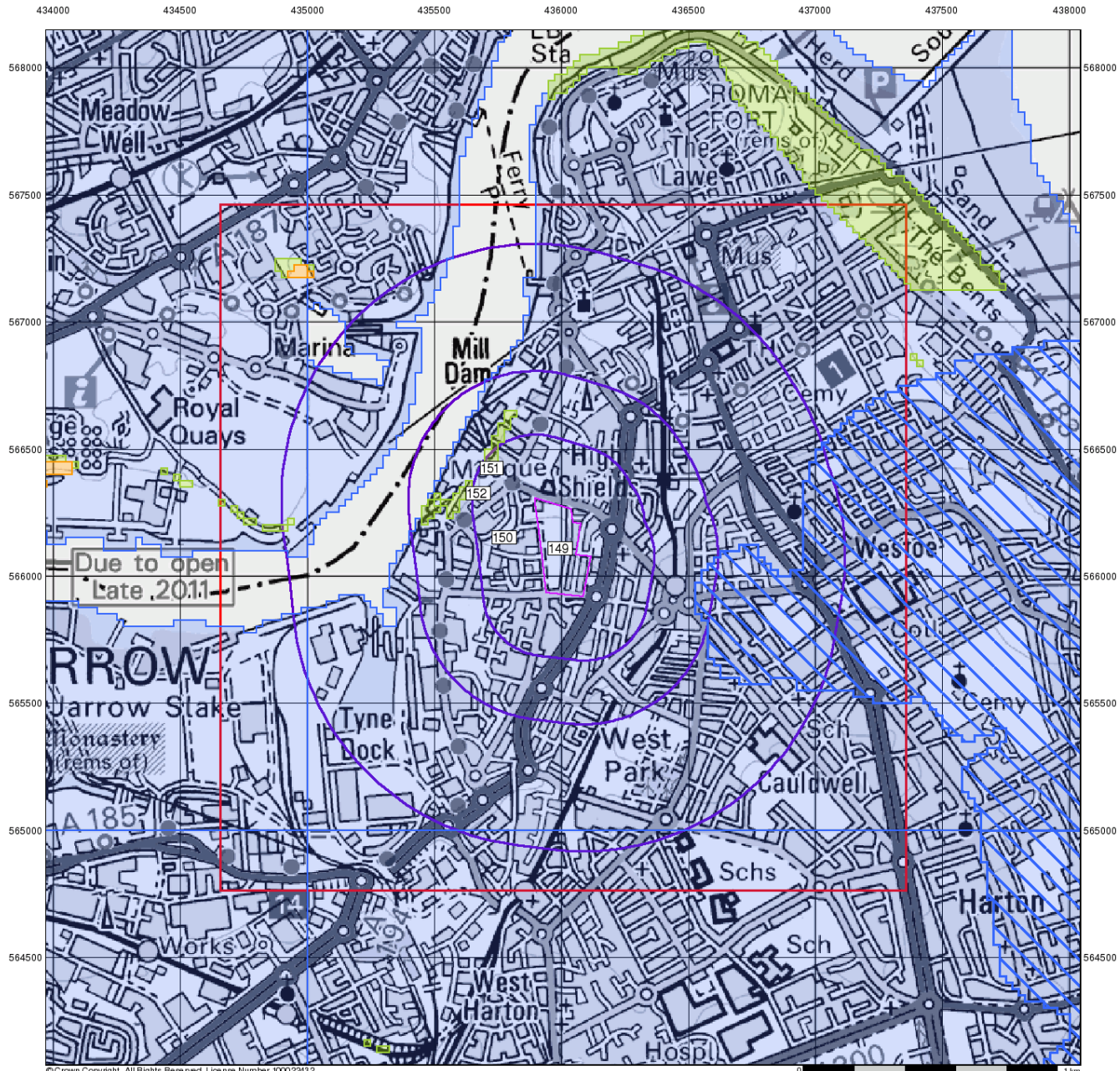
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 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

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Ground Stability Data (1:50,000)

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

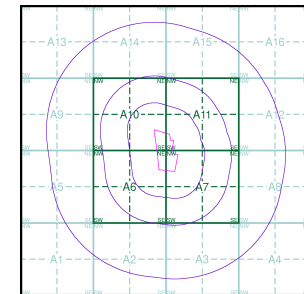
Potential for Landslide Ground Stability Hazards

- High
- Low
- Moderate
- Very Low

Potential for Ground Dissolution Stability Hazards

- High
- Low
- Moderate
- Very Low

Mining and Ground Stability - Slice A



Order Details

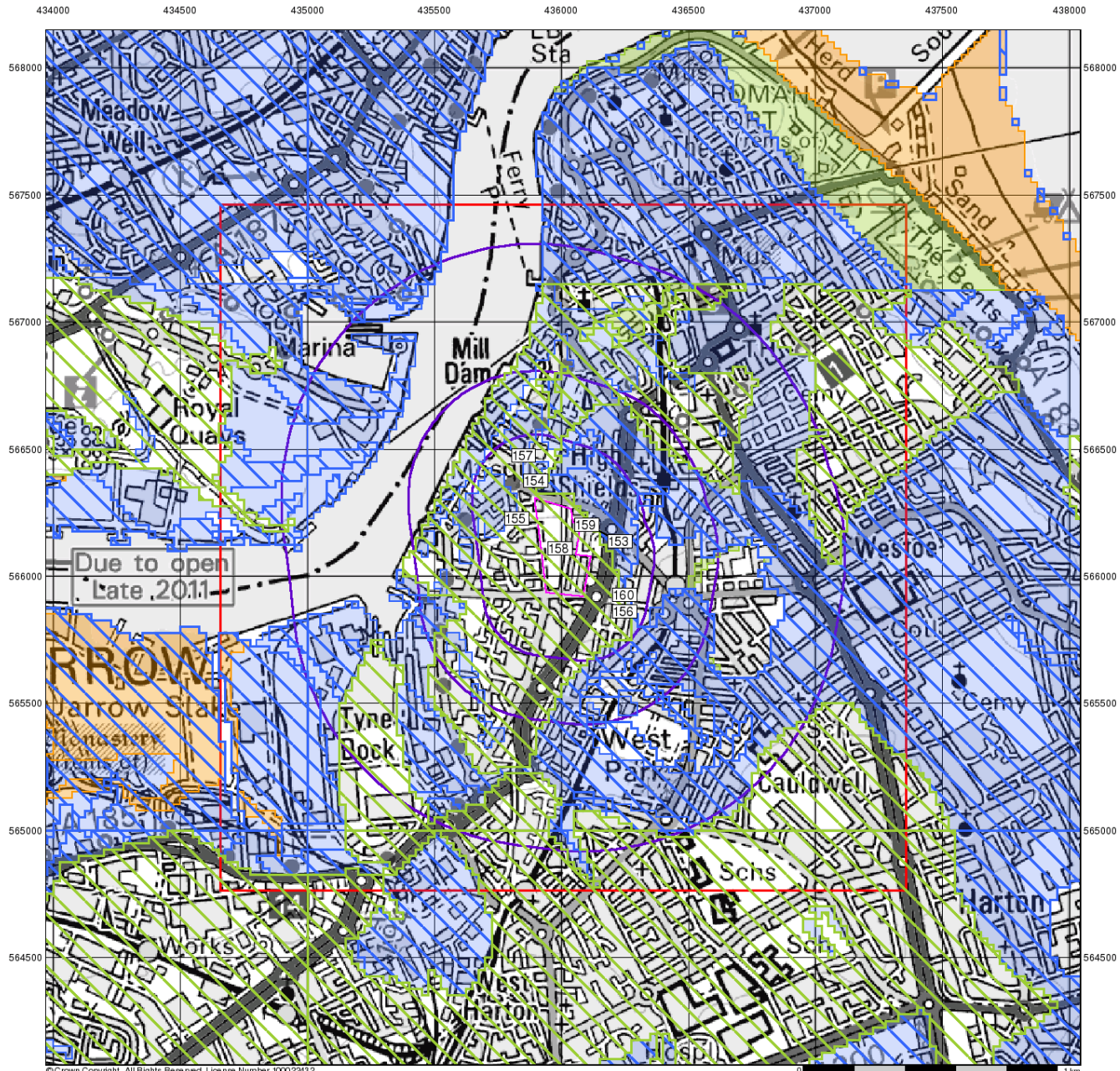
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 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

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Ground Stability Data (1:50,000)

General

- ◊ Specified Site
- ⬮ Specified Buffer(s)
- X Bearing Reference Point
- Slice
- Map ID

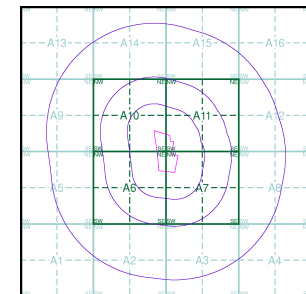
Potential for Running Sand Ground Stability Hazards

- High
- Low
- Moderate
- Very Low

Potential for Shrinking or Swelling Clay Ground Stability Hazards

- High
- Low
- Moderate
- Very Low

Mining and Ground Stability - Slice A



Order Details

Order Number: 35564740_1_1
 Customer Ref: 1004469
 National Grid Reference: 435990, 566110
 Slice: A
 Site Area (Ha): 5.6
 Search Buffer (m): 1000

Site Details

Residential Development, Trinity South, SOUTH SHIELDS, Tyne and Wear



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 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk

Appendix C

Risk Assessment Framework and Methodology

GEOENVIRONMENTAL RISK ASSESSMENT

For 'contaminated land' to exist a valid contaminant linkage must be present. That is, there should be a source of contamination, a receptor where 'significant harm' or 'significant possibility of harm' may be caused; or pollution of controlled waters is being, or likely to be caused, and a pathway which connects the two. Should any element of this contaminant linkage not be present (or severed) then the land may not be regarded as contaminated land, as defined in Part IIA of the Environmental Protection Act 1990 (amended).

Land Quality

Where contaminated land is suspected, the risk assessment should take into account site specific hazards (i.e. chemical composition of the soil and/or groundwater) and conceptual model for the site. Within the UK, DEFRA have produced a human toxicological risk assessment known as the Contaminant Land Exposure Assessment (CLEA) Model (Contaminated Land Research report series (CLR Report No's 7, 9 and 10). It should be noted that with effect from August 2008, CLR Report No's 9 and 10 were replaced by Environment Agency's Science Reports SC050021/SR2 and SC050021/SR3, respectively. Also, CLR 7 has been withdrawn and no replacement has been published to date.

The CLEA model is used to derive site specific Soil Guideline Values (SGVs) based upon the current or proposed land use of the site, which are utilised as 'intervention values' within the regulatory framework. Some of the inputs of the CLEA model are the physical, chemical and toxicological properties of the contaminant. As the toxicology of contaminants can vary significantly, the Environment Agency (EA) has published guidance on toxicology for a limited number of contaminants and intends to publish other toxicological guidance for other selected contaminants in future.

The SGVs are derived using the CLEA model according to three typical land uses and are applicable to long-term human exposure to soil contaminants. The three 'standard' land uses are:

- Residential;
- Allotments; and
- Commercial.

The EA and the Department for Environment, Food and Rural Affairs (DEFRA) had previously released ten SGVs. In December 2006, DEFRA issued a discussion paper entitled *Soil Guideline Values: The Way Forward*. The paper sought views from key organisations and groups on various ideas for how non-statutory technical guidance might be amended to make it more useful to assessors carrying out risk assessments, and to make it clearer when land qualifies as contaminated land under Part 2A of the Environmental Protection Act 1990 in England and Wales. This exercise culminated in the publication by DEFRA of *Improvements to contaminated land guidance. Outcome of the "Way Forward" exercise* (DEFRA, 2008). Based on the outcome of the "Way Forward" document, the EA released an "*updated CLEA package*" in August 2008 which included the CLEA Software version 1.04 and updates on the CLR Reports No's 9 and 10 (replaced by Science Reports SC050021/SR2 and SC050021/SR3, respectively) for use in contaminated land risk assessment. Due to the release of the "*updated CLEA package*", the previously issued SGVs were withdrawn. In September 2009, the EA released a new version of the CLEA Software (version 1.06).

Since March 2009, the EA has released new and/or revised SGVs for a number of contaminants and are in the process of preparing SGVs for other contaminants using the new CLEA Guidance. Where available, the current SGVs for 'residential' land use have been used in the geoenvironmental risk assessment for the site.

Where an SGV is not available for a specific contaminant, Site-Specific Assessment Criteria (SSAC) can be derived using the current CLEA Software which follows the methodology laid out in the following reports:

- Contaminated Land Report (CLR 7) (now withdrawn and has not been replaced);
- Human health toxicological assessment of contaminants in soil (replaces CLR 9); and
- Updated technical background to CLEA model (replaces CLR 10).

LQM/CIEH GACs

In the absence of CLEA derived SGVs for some of the contaminants of concern, other sources of guidance can also be used as screening tools. These include Generic Assessment Criteria published by Land Quality Management Ltd (LQM) / Chartered Institute of Environmental Health (CIEH) in the document '*Generic Assessment Criteria (GACs) for Human Health Risk Assessment (Land Quality Press, 2nd edition 2009)*'. The LQM CIEH GACs have been derived using the current CLEA model and are in accordance with the current CLEA guidance. The LQM/CIEH GACs for 'residential' land use have been used in undertaking geoenvironmental risk assessment for the site, where no CLEA SGVs are available.

ATRISKSOIL Soil Screening Values (SSVs)

Standard Land Uses

Atkins have derived ATRISK^{soil} SSVs based on the current CLEA Guidance (Science Reports SC050021/SR3 (the CLEA Report) and SC050021/SR2 (the TOX report)) for 'allotment', 'commercial', and 'residential (with and without homegrown produce)' land uses. Atkins have based the SSVs on the default assumptions provided in the current CLEA Guidance which are being used in the development of further SGVs by Defra and the Environment Agency. Atkins have produced SSVs for a number of contaminants using the CLEA software. The Soil Screening Values (SSVs) produced by Atkins are generally applicable to the UK for common contaminants not currently covered by CLEA SGVs. The SSVs are commercially available and have been widely promoted for use by Local Authority Officers. The SSVs for 'residential with homegrown produce' land use have been used in the risk assessment of the site, where no CLEA SGVs or LQM/CIEH GACs are available.

Applicability of Screening Values

The application of screening values enables auditable, consistent evaluation of land contamination problems. Screening values designed to be consistent with SGVs, provide a preliminary, generic assessment of the risks to human health arising from the presence of contamination within the soil. The practical application of screening values is the facility to compare site data, which informs decision-making with regard to the need or otherwise for further site evaluation and/or remediation measures. Guideline (or Screening) values, if appropriately used, can reduce the cost of risk assessment and simplify decision-making. They are easy to understand and interpret by a wide variety of stakeholders.

Non-exceedance of any of the screening values described above will indicate that the soil contaminant levels are such as not to compromise human health thereby the risk is acceptable and that land is suitable for its proposed end use, with regard to the specific contaminants assessed. However, exceedance of a screening value can indicate that further assessment or remedial action may be needed. **Note:** exceedance of any of the relevant screening values does not constitute evidence of a significant possibility of significant harm (SPOSH).

Controlled Waters

Based upon current UK guidance, risk assessment of groundwater contamination should follow staged assessment and management (called Levels 1 to 4). The Environment Agency's (EA, 2006), '*Remedial Targets Methodology – Hydrogeological Risk Assessment for Contaminated Land*' presents a recommended methodology for undertaking groundwater risk assessment. The EA document also provides a methodology for deriving site-specific

remedial objectives for contaminated soils and/or groundwater to protect the aquatic environment. The approach is underpinned by progressive data collection and analysis, structured decision making and cost-benefit assessment. The remedial target derived for each Level of assessment is compared with the target concentration to determine the need for remedial action.

For the purpose of this risk assessment, a Level 1 risk assessment has been carried out by comparing the measured soil leachate and groundwater concentrations with the adopted threshold values, as discussed below.

Level 1 Risk Assessment

Where the risk may involve pollution of groundwater resources, the risk assessment should be performed in accordance with the guidance from the document "*Remedial Targets Methodology: Hydrogeological Risk Assessment for Land Contamination*", published by the EA.

In this risk assessment, the results of tests on leachable soil concentrations and groundwater analysis have been primarily compared with two UK standards, namely; the UK Drinking Water Standards (DWS) and the Environmental Quality Standard (EQS) (Saltwater) threshold values.

UK Drinking Water Standards (DWS)

The DWS threshold values, taken from the Water Supply (Water Quality) Regulations 2000, provide a means of assessing groundwater and leachable soil concentrations. The DWS threshold values provide an interpretation of the risk to controlled waters as well as the risk to human health via the ingestion of groundwater pathway. Based on the presence of a 'Secondary A' aquifer (the Middle Coal Measures strata) underneath the site, the DWS threshold values have been used for controlled waters risk assessment for the site.

However, it should be noted that the use of the DWS values to assess the risk to controlled waters underlying the site is considered extremely conservative as they represent concentrations acceptable at the consumers' taps. It should also be born in mind that no groundwater abstraction points or groundwater Source Protection Zones (SPZs) are recorded within 1km of the site.

Environmental Quality Standards (EQS)

Where a local surface water is present, the concentrations of contaminants dissolved in groundwater or leachable soil concentrations are compared to the EQS threshold values. The EQS threshold values for various contaminants are dependent on a number of factors including if the receiving surface water is freshwater or saltwater. The nearest surface resource is the River Tyne (a tidal watercourse at this location and likely to be brackish/saline in nature), which is located some 333m northwest of the site. Consequently, The EQS (saltwater) threshold values have also been used in the controlled waters risk assessment for the site.

Risk Assessment

In carrying out this risk assessment, reference has been made to the following documents in addition to the guidance documents aforementioned:

- CIRIA (2001). Contaminated Land Risk Assessment – A Guide to Good Practice Publication Code C552;
- DETR (July 2000). Guidelines for Environmental Risk Assessment and Management. HMSO;
- DoE (1994). Contaminated Land Report (CLR 1). A Framework for Assessing the Impact of Contaminated Land on Groundwater and Surface Water.

The following factors have been used to rank the potential consequence of a *contaminant – pathway – receptor* linkage and the potential significance for current and future land use.

Potential Consequence of Hazard – Receptor Linkage (in accordance with CIRIA C552)

Severe	Short-term (acute) risk to human health likely to result in significant harm. Short-term risk of pollution of sensitive water resource. Catastrophic damage to buildings/property. A short-term risk to a particular ecosystem, or organism forming part of such ecosystem.
Medium	Long-term (chronic) damage to human health. Pollution of sensitive water resources. A significant in change in a particular ecosystem, or organism forming part of such ecosystem. Damage to sensitive buildings and structures.
Mild	Slight short term health effects to humans. Slight pollution of non-sensitive water resources. Some change to population densities but with no negative effects on the function of the ecosystem. Slight damage to sensitive buildings, structures and services.
Minor (Negligible)	Non-permanent effects to human health (easily prevented by means such as personal protective clothing etc). Easily repairable effects of damage to buildings, structures and services (e.g. discolouration of concrete).

Potential Significance: Risk Classification (in accordance with CIRIA C552)

Very High Risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, or, there is evidence that severe harm to a designated receptor is currently happening.
High Risk	Harm is likely to arise to a designated receptor from an identified hazard at the site. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the longer term.
Moderate Risk	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not undertaken already) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the long term.
Low Risk	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
Negligible (Very Low) Risk	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.